



Energy Law in Portugal: five questions on the “state of the art”

Carla Amado Gomes (coord.)

Bernardo Galvão Lucas,
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Introduction

This book is the result of an informal partnership established between the “EnerXXI - Think Tank de Energia” and the University of Lisbon School of Law, as part of a broader plan to discuss the current state of the art of the energy legislation in Portugal.

The “EnerXXI - Think Tank de Energia” was created in late 2014 by five friends, with different backgrounds, who shared a common interest in analysing the Portuguese energy sector. Acknowledging a deficit of debate around the Portuguese “energy mix”, we decided to create a forum that would allow us to develop projects and partnerships in order to stimulate the debate over the energy sector in Portugal.

Our goal was to study the Portuguese energy sector and its international dimension in a triple strand of legal context, economic relevance and energy sustainability.

In practical terms, the EnerXXI project intends to be a forum for the discussion of the Portuguese energy reality (type of resources used, balance between renewable and non-renewable energy use, weight of each energy source in the overall balance, macroeconomic sustainability, impact on prices and consumption patterns, structural implications on the morphology and dynamics of the corporate sector) working simultaneously as a unifying pole of other energy sector professionals. The main objective is to gradually develop a multidisciplinary approach to the energy sector in Portugal.

Upon developing our “Think Tank” we had the good fortune of finding in the University of Lisbon School of Law, more specifically in the person of Professor Carla Amado Gomes and the Lisbon Centre for Research in Public Law (CIDP), a partner who allowed us to pursue, more consistently, the objectives we set ourselves. This book was “born” from that partnership.

For this project, the initial idea was to analyse the “state of art” of the Portuguese Energy Law by gathering the views of the most relevant industry professionals. We considered that it would be important to collect their views in order to amplify their opinions on the topics listed above (all related to the Energy Law in Portugal).

In line with the above, the questions raised intended to stimulate debate about the “state of art” of the energy law in Portugal. We tried to ask questions covering such diverse sectors as investment, taxation, politics, environment, supports and subsidies in order to gain an “holistic” view of what exists and what can be improved.

We are fully aware that the Portuguese energy law has undergone major changes in recent years and that there will be other major changes in the coming years (due, among other things, to the interest that the sector has generated and which cannot be dissociated from recent advances in the study of fossil fuels in the Portuguese coast).

It is precisely because we recognize that the energy sector is currently at a turning point in terms of re-organization of its legal framework (more regulation by the European Union, new legal challenges brought by greater environmental awareness, new forms of energy) that it seems so important to discuss these issues.

As will be demonstrated, these questions have no easy answer – notwithstanding, we believe that in that difficulty lies the value and interest of this debate.

We do not intend this book to be read as a common position taken by the energy sector, but rather to be seen as a contribution to the discussion of these topics through the many opinions expressed (which are binding only on those who wrote them).

We are very pleased to have had the opportunity to work with the most outstanding professionals in the industry and we would like to thank Abreu Advogados, Cuatrecasas, Gonçalves Pereira, Garrigues, Miranda & Associados Morais Leitão, Galvão Teles, Soares da Silva & Associados, PLMJ Sociedade de Advogados, CMS Rui Pena & Arnaut, Sérvulo & Associados, Uria Menendez - Proença de Carvalho and Vieira de Almeida, for having accepted to participate in this project and for having shared with us their views on these issues.

We hope our project will contribute to the discussion of Energy Law in Portugal. We believe the country deserves our effort.

Organizers,

Bernardo Galvão Lucas

Diogo Almeida

João Verne Oliveira

José Calejo Guerra

Nuno Carmona

Coordination,

Carla Amado Gomes



1. Do you consider the current Portuguese regulatory framework to be an incentive to investment in the energy sector? Why?

Abreu Advogados

The energy policy of the country is largely subordinated to the strategy set at European level and more specifically to the commitments made under such strategy. Thus, the strategic options kept for national policy-makers are limited to the pursuit of the effort to ensure the objectives set.

Based on the commitment made by EU countries under the Kyoto Protocol, Member States have endeavored to adopt energy models to achieve a better performance in the sector and Portugal is no exception.

The national energy policy is constructed on two fundamental pillars: economic rationality and sustainability. These translate to the promotion of energy efficiency measures, the use of energy from renewable indigenous sources, and the need to reduce costs.

In this regard, Portugal adopted a series of measures and incentive programs to promote energy efficiency and reduce carbon emissions, promoting "green" investment in the energy sector, from which we point out the following:

- i) The National Energy Strategy 2020 ("ENE 2020") approved by the RCM no. 29/2010 of 15 April 2010.
- ii) The Energy Efficiency Fund (ESF), created by Decree-Law No. 50/2010 of 20 May, which aims to encourage measures of the National Action Plan for Energy Efficiency ("PNAEE").
- iii) The Portuguese Carbon Fund - established by Decree-Law no 71/2006 of 24 March – which endeavors to reduce carbon emissions through the following lines of action: obtaining emission credits of greenhouse gas effect; support for projects in Portugal, leading to a reduction of emissions of gases with greenhouse effect in the areas of energy efficiency and renewable energy.

- iv) Reform of the Green Taxation, enshrined in Law No. 82-D / 2014 of 31 December, changing, among others, a set of environmental tax rules in the energy sector and emissions.

Finally, it shall also be stressed that the ambitious goals that have been set by Portugal in ENE 2020 place the country among the five European leaders regarding the goals set for renewable energies with strong export capacity, which leads us to conclude that the adopted energy policies and legal framework that supports such policies are favourable to investment in the energy sector in Portugal. However, it must be acknowledged that there has been, in recent years, a clear decrease in support to direct investment due to the economic crisis that the country faces.

Cuatrecasas, Gonçalves Pereira

In any country, and Portugal is no exception, the "energy sector" is a complex and multifaceted reality which covers a wide and diverse range of commercial, logistic and industrial activities, in large, small and medium scale, production, distribution and marketing, based on the use of different sources or raw materials, which develop in different regulatory environments ranging from the most stringent and detailed regulation to the fiercest competition.

Therefore, it is not possible to discuss "investment in the energy sector" in abstract terms. Indeed, conditions vary as we speak of fossil or renewable raw materials, of production or distribution, of hydroelectric or combined-cycle power plants, of storage or transport or commercialization. But also when we look at the sector from an opposite point of view, as domestic consumers or as users in industrial production processes.

To this complexity, we must add the effect of sudden and frequent strategic changes resulting from choices made in different historical moments, from diverse macroeconomic scenarios, from the vulnerability of the Portuguese economy and its special sensitivity to cyclical fluctuations, from domestic policy options and from the transposition of Community directives. And also from the desire to reconcile conflicting interests.

The result is in plain sight. Changes in strategic priorities have led to successive "waves" of investment in infrastructure, systems, and new products or ways of production, most of which are supported by incentives or subsidies to production or consumption, often when the effects of previous "wave" had time to consolidate.

There are many examples. For instance, in the 1990s, the construction of mini-hydric plants; the installation of cogeneration plants in industrial units; the creation of a Natural Gas transport and distribution network that would feed many Combined Cycle Plants (not built); changes in road fuel specifications. And, in the past decade, the renewable energies "fever", which resulted, for example, in the installation of hundreds of wind turbines, and of an electrical vehicle supply point network. Lack of consistency resulted in a situation of excess capacity and in operational priority conflicts - the operation of certain installations must be

given priority to avoid overloads, as happens to Combined Cycle Plants, which may have to halt production when wind generation increases.

Against this background, it is only natural that the Portuguese legal rules that specially address investments in the sector would have to be adapted. Investment incentives programs and contractual profitability guarantees had, of course, to be reviewed in recent years. In the future, the profitability of investments in this sector should derive largely from regulated tariffs ("malgré" tariff deficits ...) and commercial strategies, without prejudice to the continuing incentives for projects that are justified for reasons of scientific and technological development, such as the energy from the waves, or photovoltaic, that would not be viable otherwise.

Garrigues

The Basic Laws of the energy sector establish, among the guiding principles of activity in the various energy sectors, the quality, regularity and supply reliability which in itself induces investment both in the maintenance of transport and distribution infrastructure and, if it is the case, in storage as well as the demand for electricity production optimization solutions in an environment increasingly market-oriented and competitive.

Nevertheless, it is clear that Portugal has been recognized as a pioneer country in reducing energy dependence from non-renewable sources, having heavily invested in the renewable energy sector, allowing it to occupy a position and reference concerning the achievement of the targets set for 2020 for the production of electricity through renewable energy sources. For this purpose, Portugal adopted energy policies to encourage investment, which resulted mainly in the prioritization of the injection in the public electric grid of electricity based in renewable energy sources and in the guarantee of attractive tariffs (feed in tariffs) over a period of time considered to be suitable to its payback.

Lately, due however to the financial and economic crisis that the country is going through, we have been witnessing the adoption of cross-cutting measures of public expenses rationalization which also affected the energy sector, being already taken several options aimed at reducing costs in the energy sector (including the costs associated with the remuneration of producers, which being considered unreasonable, were dubbed by some sectors as "excessive costs").

The current energy market scene is thus now substantially different from the one which previously existed. Today, we face a reality of an increase of the electricity supply, considered by many as excessive, and of a demand reduction, a fact that has also justified the re-evaluation of energy policies followed so far.

We can state that the period of intense subsidies to investment in the renewable energy sector is over. Nowadays, new projects in renewable energy with incentives based on the mechanism of guaranteed tariffs depend on the public initiative by means of tender procedures and on the inherent weighting *ex ante* of its necessity and convenience and more

focused in public perspective and in the balance of the energy production mix based on the pursuit of the overall objective of safety assurance and regular supply.

Also the current system of incentives to power guarantee (for thermal and hydroelectric power projects) is significantly distant from the previous subsidy regime, which was described by many as one of the main responsible factors for the increase of the tariff deficit.

On the other hand, important steps were taken towards the creation of a dynamic renewable energy market. In fact, it was introduced the possibility of performing the activity of electric production from renewable sources under the ordinary regime, i.e. with a remuneration regime arising from the sale of the electricity in the market (through the organized markets or bilateral contracts).

This possibility, introduced in October 2012, allows producers to develop new projects though without guaranteed return, and without depending on public initiative procurement procedures. This possibility is an important boost to investment in this sector, nowadays with more developed and cheaper technologies which are able to compete with producers in ordinary regime.

This fact, combined with the less bureaucratic licensing processes, allows us to subscribe the current opinion that Portugal is still included in the list of attractive countries for investment in the energy sector.

Within the Natural Gas sector no relevant investments are expected in a near future, particularly considering the stagnation in terms of its consumption. In the medium term, however, Portugal may take a more important stand within the European context and also in the diversification of supply sources provided that the new interconnection of natural gas transportation between Portugal and Spain and between Spain and France is concluded, thus facilitating the taking of the Iberian Peninsula as an entry platform of natural gas into Europe, which, of course, will be attract more investment in the industry.

We cannot, ultimately, fail to mention the potential investments that may occur in the upcoming decades in natural gas and oil exploration in Portugal, particularly following the reported possible location of off shore oil and natural gas deposits in Portugal and of future launch of public tenders for granting concessions for exploration and production of oil by the National Authority for the Fuel Market.

Also in the oil sector, after the large investments made in upgrading refineries in Sines and in Matosinhos, the possibility of third party access to the pipeline linking the refinery in Sines to the tanking park in Aveiras de Cima, so far exclusively used by its shareholders, is seen as a boost to competition in this area and it is expected that with these measures the sector's players feel encouraged to invest or increase their presence in Portugal.

We should also note the incentives to promote investment in R & D activities, as in the case of ocean energies, that, in time, may be enhancers of new investment based on the technological cluster and the creation and know-how.

In brief, we believe that, although the Portuguese legal framework is no longer as attractive for investment in the energy sector as it was in the past, the truth is that were taken a

number of legislative measures that seek to counteract the investment apathy that could arise and allow us to consider Portugal as one of the countries with a legal framework encouraging investment in the energy sector.

Miranda & Associados

The Portuguese legal framework is generally suitable for investments in the energy sector.

In the electricity sector, which currently faces oversupply due to a decrease in demand combined with successive grant allocation to producers, the regulatory risk is rather mitigated. Indeed, the relative stability of the regulatory framework has been preserved, thus ensuring that operators have a certain degree of certainty. Until 2012, the regulatory trend was to subsidize small producers through feed-in tariffs, which created a guaranteed remuneration regime (producers benefitted from certain and consistent remuneration). Since 2013, the feed-in tariffs model started to be phased out, as it resulted in production surplus and in situations of excessive compensation, as opposed to its main objective, which was to increase renewable energy production. Instead, in practice, producers were led to invest in the electricity sector motivated by the idea of a guaranteed remuneration. The priority now is to create a market that is not as interventionist but governed by free market competition rules, through the progressive removal of the feed-in tariffs. The guaranteed rates that are still applied in this sector are much lower, which has made it less attractive from an investors' perspective.

Moreover, the incentives in place until now for auto-production and auto-consumption were inadequate considering the Portuguese national reality. And, as a result, the number of decentralized production units in this respect was low. However, recent changes in applicable laws on auto-production and auto-consumption are expected to lead to an increase in, investments in the electricity sector. This is already the case in the photovoltaic industry. Individuals or companies wishing to produce electricity for home or own consumption may now find it easier to do so, particularly as they can now also sell the excess power generated. Through the new auto-production regime, small producers may now sell all energy produced to the network and benefit from a public tender regime in which sellers compete against each other for the largest discount on reference tariffs. As for auto-consumption, producers can now sell to the network the portion of energy which remains to be consumed, at market price, and benefit from a larger return depending on the size and power of their production unit. The main goals of this new regime are to lower energy dependency and to increase investment in renewable energies, in accordance with the National Action plan for Renewable Energy. These goals appear to have been met: until August 2015, approximately 56 production units for auto-consumption were set up and certified by the Directorate-General of Energy and Geology ("DGEG"), thus demonstrating that investments in this sector have been increasing.

In the hydrocarbons sector, Decree-Law no. 109/94 generally meets what it openly set out to achieve: to create a framework that would encourage investments in hydrocarbons and

production. The first international public tender for the award of hydrocarbons prospection blocks (which is to be launched until the end of the year) will, to a certain extent, allow confirmation as to whether the legal framework does in fact encourage investments.

Morais Leitão, Galvão Teles, Soares da Silva & Associados

The current organisation model of the energy sector – in particular the electricity and natural gas sectors – in a open and free market where all generators and suppliers must have equal access conditions to the networks and infrastructures used in these sectors favours investment in the non-regulated activities, *i.e.*, in both the generation and supply of electricity or natural gas, allowing for an increase of the number of market participants.

Another positive factor is an overall tendency to simplify the licensing procedures of the sector's several activities, of which a significant part is now made by electronic means. In addition, an increasing use of public tenders procedures for the licensing of said activities favours transparency and equality between the interested parties.

From another standpoint, it may also be noted that, confronted with the need to amend the laws applicable to the energy sector, generally the legislator has safeguarded the legal status of existing situations, aiming to minimise the number of retroactive changes or changes that may severely hurt investors' confidence. A recent example is the agreement reached in 2013 between the Portuguese State and the owners of wind farms in Portugal, which allowed for a consensual implementation of measures foreseen in the Program for Economic and Financial Assistance that facilitated the reduction of costs of the National Electric System.

It is also worth mentioning that Portugal is a member of the Energy Charter Treaty, which provides additional security that is crucial for reinforcing foreign investors' confidence in our country

PLMJ Sociedade de Advogados

The Portuguese legal framework can be seen as considerably favourable to investments in the energy sector, from the generation of electrical energy to the reduction of use of fossil fuels in the transport sector. The incentives for generation of renewable energy and the efficient use of resources are well known, since the first steps taken by the Portuguese State to liberalise the sector, namely since 2005 – with the first National Strategy for Energy. A wide range of mechanisms was set up to incentivise investment. The most important indicators for a climate favourable to investment usually relate to questions of financial return and risk. These factors can clearly be influenced by a clear and stable legal and regulatory framework – even if it envisages necessary future legal and regulatory changes –, in line with the evolution of the sector. Another important factor is growing legal transparency and the

introduction of non-discrimination measures in access to the grids. This is guaranteed by the creation of the grid and system operator model, by the regulations on commercial relationships and grids' access (among others) and by the unbundling of activities of generation and supply applicable to undertakings or their groups with an interest in transport and distribution of electricity or natural gas and vice versa. Competition has also been strengthened with the evolution of the Iberian Electricity Market (*Mercado Ibérico da Eletricidade* – MIBEL). Other measures to boost investment relate to the support for energy efficiency. In particular, there are measures to support efficiency in construction and to incentivise co-generation of cooling and heating energy and/or ancillary energy aiming at reduction of industry greenhouse gases emissions. These measures, which include the feed-in tariffs, seek to guarantee capacity and encourage availability from electricity generation plants. Most of these incentive policies have been subject to adjustments over recent years, namely as a result of the economic-financial crisis and the evolution of infrastructures and markets.

Besides the tax incentives and by way of example, a recent ministerial order of February 2015 established the access conditions and general financing rules for projects in the area of sustainability and efficiency in the use of resources. These include (i) promoting the generation and distribution of energy from renewable sources; (ii) supporting energy efficiency and use of renewables in companies, in homes and in central and local government public infrastructures; and (iii) promoting the use of environmentally friendly transport and sustainable mobility. There is no doubt these measures had previously been identified as significant, but their implementation has been and is somewhat underdeveloped. This has also been due to the need to demonstrate the cost-benefit to the implementer/consumer – because they very often also involve a high economic cost.

CMS Rui Pena & Arnaut

My answer is no because our current regulatory framework, as previous ones, is not determined by a clear, consensual and lasting energy policy which would give the investor the necessary confidence that the assumptions and conditions that lead them to make a decision today, remain in effect in the future.

Energy, as we all recognize, is one of the fundamental pillars of the economic development of any country. It would, therefore, be logical and correct for Portugal to have a known and stable energy policy, in light of our weaknesses as a peripheral country and lack of fossil fuels, with a difficult financial and economic situation, characterized by an insignificant GDP growth, either in periods of recession or excessive external indebtedness, perpetuated by continuous deficits, with very uncompetitive companies with a poverty risk rate of around 20 % among the population.

The truth, however, is that, in the last forty years, since the oil crisis of 1973/74, experimentalism has been practiced, with successive policies adopted, often without rationality, misguided and short-lived, which, thereby, does not inspire a minimum of confidence in economic agents.

I am very much aware that no policy is immutable because it must be attentive to different variables of the time, but this does not obviate the fact that it should follow a structural line of continuity in the long term in a consistent and sustained manner, providing and meeting the consumption expectations of families and businesses, with best possible end-price conditions, striking a constant balance between supply capacity and forecast consumption, avoiding redundant investments with the inherent "sunk costs"¹ and promoting a rational and efficient use of energy, avoiding waste. Only in this way can it contribute to a faster reduction of energy intensity in our economy, following the example of what has already happened in the United Kingdom and in the majority of our European partner countries.

In this context, the different governments, aiming to implement "their" policy,² beckon with incentives for investment, whether in new technologies, or new infrastructures required to compensate for the intermittent and uncontrollable nature of such new technologies, which are successively revised, when not reformulated or completely modified by their successors, resulting in a decrease in the revenues that investors were expecting.

This situation, which has been evident in recent years and which has characterised our energy policy, particularly in the field of RES, is responsible for energy prices for consumers, the worsening of the tariff deficit³ and, owing to downward revisions to which it was subjected by the measures imposed in the Troika Memorandum of Understanding,⁴ has led, ultimately, to the sale of many enterprises by the initial investors.

It is, furthermore, a flaw of the Portuguese regulatory framework concerning incentives and tax benefits not only in the energy sector, but in other sectors of the economy, which only gives rise to insecurity and justified fear among investors, and their consequent withdrawal.

Sérvulo & Associados

The difficulty in providing a simple answer to this question lies in the broadness of the so-called "energy sector", which encompasses a varied set of economic activities directed towards the provision of heat and energy in the form of electricity or mechanical energy. These activities tend to be grouped into three sectors, generally designated as the electricity sector, the natural gas sector and the oil sector.

As has been known for a long time, the role played by the energy sector in providing basic universal needs, both to citizens and companies, has justified State ownership or control. In-

1 Sunk costs - resources used in the construction of assets that, once realised, cannot be recovered in an effective and meaningful way.

2 This "policy" has fundamentally, in recent years, been the "renewable source policy", with excessively high and not very sustainable costs.

3 Although there are prospects for commencing tariff deficit reduction over the next few years, this figure currently stands at € 4,800 million, with the addition of so-called fraudulent consumption.

4 In summary, this Memorandum, dated 17 May, 2011, mentioned the need to assess renewable source support schemes, the possibility of renegotiating the current contracts and downwardly revise tariffs for new contracts to ensure that they do not over-compensate producers for their costs and continue to provide an incentive for the gradual reduction of such costs.

deed, even following privatisation and liberalisation processes, the Portuguese State never refrained from submitting energy activities to a set of regulatory principles aimed at reconciling the need to ensure security of supply, the fostering of competition in energy markets, the promotion of the use of endogenous renewable energy resources, and the implementation of energy efficiency.

More recently, certain legislative amendments were introduced to this end, particularly in the electricity and natural gas sectors. Part of these legislative changes still require enabling regulation, not to mention the fact that they were enforced during a time marked by the implementation of a financial assistance programme (in which a set of austerity measures was explicitly enforced to ensure the sustainability of the energy system), as well as by a drop in energy consumption and a certain market stagnation, which affected the investment decisions of operators, regulators, and other public decision-makers.

In any case, a gradual recovery of energy consumption (and thus of the sector's investment levels) is expected. Such recovery shall also benefit from two parallel trends: the European Union's commitment to the creation of an *Energy Union*, which includes the reinforcement of interconnections in southwest Europe; and the growing number of incentives directed towards the increase of the share of renewables in the production *mix*, the promotion of energy efficiency measures and decentralized or distributed production (small-scale and private consumption production), and the development of *smart grids* and *smart meters*, specially because of the priorities set out in both the Europe 2020 Strategy and the Partnership Agreement for Portugal 2014-2020.

Nevertheless, despite the importance of the oil sector in matters such as the security of supply and economic competitiveness, and in spite of the supervisory role played by the Competition Authority, one must recognize that, at both a European and a national level, most attention has been focused on the electricity and natural gas sectors. It is true that a revision of the law governing the oil sector has recently been approved, even though (at the time of writing) it has not yet been published. However, although the exact terms of said revision are still unknown, it is reasonable to assume that such a revision is unlikely to solve all the variables and constraints that influence the sector's efficiency and oil price formation, which range from local logistic conditions to the fiscal framework of petroleum and other energy products.

Uría Menéndez – Proença de Carvalho

Recent experience has shown a growing appetite from foreign investors in the national energy market, notably in the field of renewable energy fostered by a favourable feed-in tariffs regime.

In fact, whilst until 2010-2012 the Portuguese market was focused on the installation and development of renewable energy power plants sponsored by sector investors dedicated to the development, construction and operation of renewable energy production facilities (v.g., wind farms, small hydro, solar pv), we are now witnessing a strong trend of institutional foreign investment interest in the acquisition of such assets. It is our view that the feed-in tariffs and the rates of return implied to the special regime energy production facilities are playing a major role in attracting the foreign direct investment.

If, on the one hand, the feed-in remuneration regime is in itself sufficient to attract investment for the assets already in operation, on the other hand, the stability of the legal framework applicable to the remuneration regime of said assets is likely the most important element in the investment decision making process.

It is well known that the feed-in tariffs scheme is not a national singularity and that it has been implemented across Europe (v.g., Germany, Spain, Italy, UK). However, differently from countries such as Spain or Italy, that have implemented retroactive cuts to feed-in tariffs applicable to renewable energy facilities, the Portuguese legislator choose to keep the tariffs applicable to projects in operation or in the final stages of licensing untouched, thus transmitting to the market the necessary confidence and security necessary for the flow of investment.

This choice by the legislator was made clear from the onset in the transitory regime of Decree-Law nr. 215-B/2012, of 8 October, set out in article 15 thereto, as well as in the alternative remuneratory regimes for wind farms to be put in place after the expiry of the guaranteed tariffs' term set forth in Decree-Law nr. 35/2013, of 28 February.

Bearing in mind the above, the legal certainty of the renewable power plants' remuneration legal framework has been encouraging investment and playing a central role in attracting investors who were previously focused on markets such as the Spanish and Italian.

Differently, it has become visible that the fossil fuel energy production market is becoming a market increasingly shut to foreign investment. The same reasoning applying to the energy distribution and transportation markets, which are entirely concessioned to private operators and therefore not open to competition. For these markets, incentive on investment shall depend on the investment programs that become to be approved by each of the concessionaires and the Government.

In addition to the laws applicable to the energy sector in particular, Portugal currently has a quite sophisticated procurement framework which may prove to be very useful for the implementation in Portugal of the European Commission Investment Plan for Europe, which is expected to provide funds for the interconnection of electric and gas grids between Portugal, Spain and France.

Vieira de Almeida

The existing Portuguese legal framework acknowledges and seeks to foster investment in the energy sector, although it actually limited investment support. This cannot be dissociated from the economic crisis experienced by the country in recent years.

Moreover, given the considerable progress Portugal has made in achieving European energy-related targets, recent legislation has not been about giving priority to certain energy sector areas, such as generation, transmission and distribution (although to be fair we must acknowledge that the investment in those activities was greatly impacted by the drop in energy consumption). Investment has been clearly consumer-oriented while seeking to achieve reduction of electrical system costs.

On the other hand, similarly to other European Union members' legal framework, the existing Portuguese framework is based on the European directives aimed at the creation of an internal energy market.

In that sense, the Portuguese legal framework is a reflection of Europe's commitment to the energy sector, i.e., a legal framework designed for sector liberalization and unbundling of activities, which in turn leads to the inevitable adjustment of investment by the sector's stakeholders.

Considering that investment in the energy sector goes hand in hand with investment in the “no watt” (i.e., a commitment to energy efficiency), we should also stress Portugal's commitment to green growth.

We understand and treat the steps already taken, i.e., the commitment to generation, particularly of renewable energies, to smart grids, green growth, energy efficiency and self-consumption, as irreversible.

Creating a sound investment policy that enables all sector stakeholders to invest in the long run – and in this regard, maintaining a stable and clear regulatory framework is obviously paramount – is the way forward. Legal and regulatory setbacks or instability must be perceived (by Portuguese society as a whole and not just by the legal community) as true barriers to both domestic and foreign investment with devastating side effects to the Portuguese economy.

In this regard and notwithstanding the economic crisis, economic and fiscal support to all sector stakeholders must be carefully considered and brought into the equation – clearly, we stand where we stand in terms of renewable energies (with obvious gains in current technologies' costs) because there was a national and international policy of economic, financial and fiscal support to this sector.

Lastly, we would add that construing an investment-suited legal framework first requires a serious and in-depth “re-design” of the electricity and gas purchase and sale market – as required for the proper balance of all stakeholders and an adequate return on their investment.

EnerXXI – Think Tank de Energia

The energy sector can be characterized by a value chain of a complex and multidimensional structure, covering a broad spectrum of value generating activities, depending on the energy source, purpose and customer typology.

As **Sérvulo & Associados** points out, this value chain can be broken down into “*three sectors, generally designated as the electricity sector, the natural gas sector and the oil sector*”. Additionally, there is a fourth sector – the thermic sector – which is not very relevant in southern Europe countries but has been gaining space in countries like Sweden, Denmark and Finland, with the development of District Heating solutions, aimed at the sale and distribution of heat under the form of hot water or steam. All these sectors imply a group of economic activities including, amongst others, production, transport, distribution, storage and trading.

Cuatrecasas, Gonçalves Pereira highlights that it is not possible to discuss the investment outlook in the energy sector in vague terms and without going into the detail of an actual case, because the economic relations between these sector-activity binomials develop in “*different regulatory environments ranging from the most stringent and detailed regulation to the fiercest competition*”. In this case, our analysis will mainly focus on five binomials we consider to be relevant for future investments, due to their dimension, sustainable dynamics and economic potential (actual or prospective): (i) production of electric energy (with the required differentiation between renewable and nonrenewable); (ii) electric energy saving; (iii) commercialization of electric energy; (iv) production of hydrocarbons; (v) commercialization of hydrocarbons.

Several experts consulted within this process refer that, from a macro standpoint, energy policies in Portugal are very dependent on the strategy defined at the European level, and on commitments made by several European countries within the Kyoto Protocol which have recently been reinforced by the 21st Climate Conference (COP21). In this sense, and in line with European institutions’ recommendations, national energy policy has been based in two main pillars, economic rationality and sustainability. This led to a situation where, in the past decade, the Portuguese legal framework was particularly favorable to investment and to the development of the economic activity in most of the five binomials mentioned above.

Recent historical overview (analysis to the period ending in 2012)

A. Production of electric energy | Electric energy savings

Within the areas of production of electric energy from renewable sources and electric energy savings, Portugal has been one of the countries on the forefront of the reduction of

the dependency on fossil fuels, which, as highlighted by **Garrigues** "allowed it to occupy a position and reference concerning the achievement of the targets set for 2020 for the production of electricity through renewable energy sources". This can be largely explained by the adoption of policies to incentivize energy efficiency and the decarbonization of the economy, which have promoted "green" investments and the development of renewable energy production. Within this regulatory framework, as mentioned by **Abreu Advogados**, is worth pointing out:

- i) *"The National Energy Strategy 2020 ("ENE 2020") approved by the RCM no. 29/2010 of 15 April 2010.*
- ii) *The Energy Efficiency Fund (ESF), created by Decree-Law No. 50/2010 of 20 May, which aims to encourage measures of the National Action Plan for Energy Efficiency ("PNAEE").*
- iii) *The Portuguese Carbon Fund - established by Decree-Law no 71/2006 of 24 March – which endeavors to reduce carbon emissions through the following lines of action: obtaining emission credits of greenhouse gas effect; support for projects in Portugal, leading to a reduction of emissions of gases with greenhouse effect in the areas of energy efficiency and renewable energy.*
- iv) *Reform of the Green Taxation, enshrined in Law No. 82-D / 2014 of 31 December, changing, among others, a set of environmental tax rules in the energy sector and emissions".*

In this context, there were two measures that gave a significant push to the addition of renewable energy capacity (in particular, wind energy, micro hydro and solar photovoltaic) until the period ending in 2010-2012: the priority given to the injection of renewable energy into the grid and the guaranteed remuneration schemes (feed-in tariffs) involved in the development, construction, and operation of renewable energy assets. Additionally, the introduction of requirements to buildings' energy efficiency certification, together with a higher consumer environmental and cost awareness have stimulated the investment in energy saving solutions and the emergence of a series of companies dedicated to this kind of activities, with particular highlight to Energy Service Companies (ESCOs).

B. Commercialization of electric energy | Commercialization of hydrocarbons

In the domain of electric energy and hydrocarbons commercialization, it is worth emphasizing the evolution of the legal system and the implementation of measures to expand the access to the grid and to introduce competition in traditionally monopolistic markets, which, in itself, favored investment in recent years, price reductions and an improvement in service quality from a consumer perspective. As explained by **PLMJ Sociedade de Advogados**, this has been guaranteed "by the creation of the grid and system operator model, by the regulations on commercial relationships and grids' access (among others) and by the unbundling of activities of generation and supply applicable to undertakings or their groups with an interest in transport and distribution of electricity or natural gas". Within the

scope of electricity commercialization, we also cannot ignore the importance played by the development of the Iberian Electricity Market (MIBEL), which has been a fundamental mechanism in the promotion and strengthening of cross-border competition with Spain.

Current landscape and future perspectives (analysis post external intervention)

In spite of the developments identified earlier, one of the major criticisms made against Portugal's energy policy execution has to do with its volatility and lack of coherence, which, as suggested by **Cuatrecasas, Gonçalves Pereira** "led to successive "waves" of investment in infrastructure (...) most of which supported by incentives (...) often before the effects of previous "waves" had time to consolidate" and, in many cases, lacking an integrated perspective of the economic sustainability of the incentives conceded, specifically in the domain of renewable energy sources, contributing to the deterioration of tariff deficit and to an increase of energy prices to end consumers (opinion also shared by **CMS Rui Pena & Arnaut**).

These weaknesses meant that, with the sovereign debt crisis and with Portugal's adoption of the Economic and Financial Assistance Program (EFAP), there was a need to reduce direct and indirect incentives to renewable energy investments, on the one hand to deal with an oversupply of energy, associated with economic downturn and demand stagnation, and on the other hand to mitigate the tariff deficit and the rising cost of factors of production. As stressed out by **Vieira de Almeida** "the considerable progress Portugal has made in achieving European energy-related targets" also fostered the decision to relax the support to renewable energy production. In fact, it is estimated that Portugal's renewable energy share in energy production in 2012 was around 27%, significantly above of the minimum target trajectory initially forecasted of 22% and close to the final objective of 31% by 2020⁵.

In this context, it could be argued that the current legal framework is not the most beneficial for the investment in renewable electric energy production given the restraints to direct incentives. As referred by several people heard during the course of this study, it can be said "that the period of intense subsidization to the investment in the renewable energy sector is over" – except to investments made in some innovative technologies (as it is the case of wave and tidal energy production, where some specific support is kept). In any case, and as it is highlighted by **Garrigues**, it cannot be ignored "that important steps were taken towards the creation of a dynamic renewable energy market", with the opening of renewable electricity production to a remuneration system of free market economy. This novelty, introduced in 2012 "allows producers to develop new projects, though without guaranteed return, without depending on public initiative procurement procedures". This initiative represents a particularly important incentive in the sense that there are increasingly more mature renewable technologies, which offer a cost-benefit balance that is able to compete in the ordinary system and without support.

5 Renewable Energy Projections as published in the National Renewable Energy Action Plans of the European Member States, Energy Research Centre of Netherlands in collaboration with European Environment Agency (EEA)

It is also important to mention, as it is noted by **Morais Leitão, Galvão Teles, Soares da Silva & Associados**, that in recent years Portugal has observed an "overall tendency to simplify the licensing procedures of the sector's several activities, of which a significant part is now made by electronic means" and an increasing adoption of the public contest option in licensing processes which promotes "the transparency and the leveling of conditions to the interested parties". This increasing debureaucratization in parallel with other measures destined to facilitate the investment in renewable electricity production, has contributed to create an appealing private investment framework, even if not leveraging direct support mechanisms that weigh on the State's budget.

Regarding the investment in the commercialization of electricity and hydrocarbons, the Portuguese legal landscape has evolved in line with the European vision for the internal energy market and has benefited from Europe's ambition and reforming spirit. In this sense, and as recalled by **Vieira de Almeida**, the Portuguese legal framework in this axis showcases a policy of "liberalization" and of "separation of activities", which by itself induces a more competitive environment and determines a transfer of power towards the end consumer. This phenomenon, on top of opening the market to new investors, fosters value creation, the investment in new technologies (as for example Smart Metering) and the development of new commercial propositions that bring more advantages to consumers, both from an electricity commercialization standpoint, as from a natural gas and oil standpoint.

It should also be highlighted the regulatory progress on the domain of exploration, development and production of fossil fuels. As commented by **Miranda & Associados** "[i]n the hydrocarbons sector, Decree-Law no. 109/94 generally meets what it openly set out to achieve, to create a framework that would encourage investments in hydrocarbons and production", creating more favorable access conditions, simplifying administrative procedures and clarifying operating rules, shaping it as close as possible to industry circumstances and practices. This is an area where several potential investors have appeared and where a consistent wave of investment in the short run might arise. **Miranda & Associados** recalls that the first international public contest for the award of oil exploration fields will take place soon, which will allow confirming the interest propelled by the new regulatory framework.

To finalize, it is important to address the topic of stability, predictability and reliability of Portugal's regulatory and legal system, an aspect that is critical when discussing long term investment and which, from a certain perspective, impacts transversally all of the binomials covered, punishing ever more those investments with a longer timeframe and which entail a larger cleavage between risk and return. Following this line, and as argued by **Vieira de Almeida** "legal and regulatory setbacks or instability must be perceived (by the Portuguese society as whole and not just by the legal community) as true barriers to both domestic and foreign investment with devastating side effects to the Portuguese economy".

Among the several experts consulted, the opinions diverge on the Portuguese State's ability to protect investors' interests. **CMS Rui Pena & Arnaut** claims the State is not capable of ensuring this predictability, insofar as "the different governments, aiming to implement "their" policy, beckon with incentives for investment [...] which are successively revised, when not reformulated or completely modified by their successors, resulting in a decrease

in the revenues that investors were expecting". The Law Firm clarifies that this is a flaw in the Portuguese legal framework that is not limited to the energy sector and that *"only gives rise to insecurity and justified fear among investors, and their consequent withdrawal"*. **Vieira de Almeida** suggests that creating a sound investment policy that enables all sector stakeholders to invest in the long run – and in this regard, maintaining a stable and clear regulatory framework is obviously paramount – is the way forward."

However, **Uria Menéndez – Proença de Carvalho** and **Morais Leitão, Galvão Teles, Soares da Silva & Associados** argue that the State has made an effort to protect the interests of investors. **Uria Menéndez – Proença de Carvalho** states that *"differently from countries such as Spain or Italy, that have implemented retroactive cuts to feed-in tariffs applicable to renewable energy facilities, the Portuguese legislator choose to keep the tariffs applicable to projects in operation or in the final stages of licensing untouched, thus transmitting to the market the necessary confidence and security necessary for the flow of investment"* and highlights the legal certainty of the remuneration legal framework applicable to renewable power plants, which has *"been encouraging investment and playing a central role in attracting investors who were previously focused on markets such as the Spanish and Italian"*. **Morais Leitão, Galvão Teles, Soares da Silva & Associados** believes the State has made an effort to soothe the impact on investors, safeguarding *"the legal status of existing situations, aiming to minimize the number of retroactive changes that may severely hurt investors' confidence"*, giving the example of the agreement reached between the Portuguese State and the owners of wind farms.

Irrespective of a broader discussion on the attractiveness of the Portuguese legal framework and the specific regimes of each of the binomials, it seems undeniable that the Portuguese regime today has a high degree of sophistication and that it should give priority to a number of specific investment opportunities in the short and medium term, of which we would stress out the following:

- Production of electric energy from renewable sources based on advanced technologies (as it is the case of energy from waves and tidal);
- Production of electric energy for self-production and self-consumption;
- Production of electric energy from renewable sources leveraging more mature technologies, which have the capacity to compete on the free market (as it is the case of solar photovoltaic);
- Energy conversion or efficiency projects (as it is the case of reutilization of biomass in industries such as wood and cork);
- Exploration and extraction of hydrocarbons; or
- Value added services in the domain of electricity and natural gas commercialization (where we would highlight smart metering).

In any case, it is worth stressing that these opportunities and, from a more general perspective, the investment in the sector, should benefit from the economic recovery and from

two other macro trends, in particular, and as mentioned by **Sérvulo & Associados**, "*European Union's commitment to the creation of an Energy Union, which includes the reinforcement of interconnections in southwest Europe*" and the transition to a more decentralized, efficient and sustainable production model.



2. How would you describe the Portuguese legal framework concerning the promotion of energy efficiency? (“The best energy is the one that is not produced”).

More specifically, how would you rate the adequacy, implementation and impact of the National Action Plan for Energy Efficiency (“PNAEE”)?

Abreu Advogados

The promotion of energetic efficiency and renewable energy sources are part of the new strategic framework for 2020 for the energy sector, which attempts to adjust strategies for energy demand and supply, being the primary objective to place energy at the service of the economy and families, thus guaranteeing the sustainability of prices.

Although it has been registered favorable developments, Portugal still has a high level of external dependence, so the role of energy efficiency and RES (Renewable Energy Sources) is essential to strengthen security levels while promoting the diversification of the energetic outlook and the increase of the sustainability associated with the production, transport and energy consumption.

The goals established by the EU for 2020 consist in specific targets for Portugal, which are the following: 20% reduction of greenhouse effect gases; 20% incorporation of RES in final energy consumption; 20% reduction in energy consumption.

However, in addition to the measures imposed by the EU, the Portuguese Government has set targets that go beyond the EU objectives, which revealed the serious commitment of Portugal in fighting climate changes and energetic external dependency.

In addition, Portugal also has committed to the following targets: 31% of RES in gross final consumption of energy; 10% RES in transport; 20% reduction in primary energy consumption.

In order to achieve such targets, Portugal approved the National Action Plan for Energy Efficiency for the period of 2013-2016 by Resolution of the Council of Ministers no. 20/2013 of April 10th.

The NAPEE is an energy planning instrument that establishes how to achieve the goals and the international commitments made by Portugal on energy efficiency which contains the following guidelines:

- Increase energy efficiency of the economy and particularly in the State sector, contributing to the reduction of public expense and the competitiveness of companies;
- Accomplish all the commitments made by Portugal in an economically rational manner;
- Strengthen the monitoring of the various measures;
- Reevaluate measures with high investment and merge the current measures;
- Launch new measures from the existing ones, now covering new sectors (ex. : Agriculture);
- Increase energy efficiency in the State sector materialized by [Eco.AP](#) program (the tender documents were approved by Decree no. 60/2013).

Regarding the evaluation of the impact of the measures implemented in the transport sector, it is expected total savings of 344,038 tep by 2016, having already reached 74% of the overall objective for this sector.

In the Residential and Services sectors it is expected a total saving amount of 634,265 tep by 2016, having already reached 42% of the overall objective for this sector.

For the industry sector it is expected a total saving amount of 365,309 tep by 2016, having already reached 49% of the overall objective for this sector.

Finally, in the State sector it is expected to save up to 106,380 tep until 2016, but, considering that these measures are recent it has been reached only 9% of the overall objective for this sector.

For the implementation of such measures, it was crucial the support given by the Energy Efficiency Fund (FEE), established by Decree-Law no. 50/2010, of May 20th, which aims to encourage energy efficiency, both by citizens and companies, promote energy efficiency projects and also to promote behavioral changes in this field.

Cuatrecasas e Gonçalves Pereira

Firstly, we disagree with the premise that the best energy would be the one that is not produced. Reducing this statement to absurdity, we would conclude that the ideal situation would be one where energy is not produced, which is not compatible with life as we know it. In terms of energy efficiency, we would argue that the best energy is not the one that is not produced, but rather that which is produced because it is needed. In turn, this would require the identification of sources of waste avoidable losses - that could qualify as (to make use of a current neologism) "unnecessities".

The objective of the PNAEE seems to be the exact identification of energy unnecessities, and taking measures to minimize them. To this end the plan starts from the identification of five major areas and the evaluation of the global consumption levels corresponding to each of them, and sets reduction targets for the period under consideration, which will be achieved through the complex of measures identified.

In terms of evaluation, we should immediately highlight as positive the fact that the current version of PNAEE is based on a diagnosis of the performance of previous versions, with an assessment of the achievement of the objectives outlined in said versions. This permitted a more perfect description of the current situation at the date of drafting the current version of the plan, and the adaptation of measures and partial objectives in accordance with more realistic considerations, eliminating those that proved "of difficult implementation or quantification or that had a reduced impact and their replacement by new measures or the strengthening of existing measures to reduce costs and ease implementation". This adds credibility to the exercise and its implementation to date, although it also allows for the conclusion that there is room for further action, and possibly to more ambitious objectives, provided that suitable cost-benefit and sustainability analysis would justify such additional effort.

The same partial assessment allows us to assess in generally positive terms the regulatory framework resulting from the PNAEE, which seems appropriate given the type of measures and objectives set out in the document.

As a downside (or less positive factor) we note (also here) the inconsistency of some of the measures among themselves. For example, the promotion of sustainable mobility policy, which assumes "the development of public transport infrastructures (...) in conjunction with the implementation of measures restricting the movement and parking of the private vehicles", should integrate a reflection on municipal policies concerning the creation of paid parking spaces close to public transport stops. However, sometimes it seems that the need to raise revenue becomes the priority objective.

But the way the PNAEE is designed reveals a reactive posture vis-à-vis Community policies. In this, as in other areas, Portugal seems to go "tag along", without showing the capacity for taking the initiative to identify its own problems and outlining its own programmes.

Garrigues

Energy efficiency has been for some years one of the main concerns of our policy makers.

Although the late transposition of EU directives on energy efficiency, the delay did not question the goals set for this area and which measures have given results still subdued but positive overall.

In this regard, we can highlight several regulatory programs, some in the context of the implementation of NEEAP and others, at the same time, which have already been imple-

mented to improve energy efficiency, particularly in the scope of buildings. This is the case of the energy certification system, of the energy performance regulation of buildings, the renewable system on time as well as the measures "Renew Home & Office." Also in terms of energy labeling and illumination (tax on lamps), legislative diplomas of energy efficiency promotion stand out.

In the sector of state / public administration ambitious goals were established and some energy efficiency programs in public administration at the level of state buildings and in terms of energy performance of services were already implemented, in particular through energy efficiency management contracts and action plans for energy efficiency.

It is now the transport sector that deserves particular attention, since it is this sector that has the largest share of oil imports and which has not yet felt great significant results in terms of energy efficiency.

It will be in auditing in energy efficiency, promotion of public transport, renewal of the vehicle fleet by promoting electric vehicles and biofuels that, in a near future, may be implemented measures with the most significant impact in terms of energy efficiency.

Also in the industry area, we must admit that it may be promoted incentive programs for energy efficiency investments. The promotion and regulation of energy efficient cogeneration was certainly an important step in promoting energy efficiency.

In a legislative point of view, there were several acts adopted to promote energy efficiency (buildings, consumption, labeling, electric mobility, public administration, etc.).

Of course, the practical results of all these programs and investments will only be demonstrated as time goes by, however, it is our conviction that also in this respect Portugal will be able to occupy an honorable place in meeting the targets set for energy efficiency.

Miranda & Associados

The National Action Plan for Energetic Efficiency (*Plano Nacional de Ação para a Eficiência Energética* - "PNAEE") is part of the European 20-20-20 goals, the main purpose of which is to achieve a 20% decrease in energy consumption and greenhouse gases by 2020.

In 2013, the PNAEE was revised to ensure that it was better adapted to the economic context affecting Portugal at the time. It has proven to be adequate to national reality, and achieved positive implementation and impact levels through joint actions performed in a number of activity sectors. In particular, the plan encompasses the six following areas: transportation, residential and services, industry, state, behaviors and agriculture.

The Energy Efficiency Program for Public Administration (*Programa de Eficiência Energética na Administração Pública* - "[ECO.AP](#)") was introduced in the public sector, where a significant cut in expenses is sought to be implemented. The program allowed for the setting up of low consumption energy alternatives and other actions aiming at achieving energy

certification of State buildings. These initiatives have led to positive results arising from emission reduction (e.g., in interior air conditioning systems). However, to date, the most significant savings recorded were in relation to public lighting, where State accounts benefitted from a 21% reduction.

In addition to measures adopted in the public sector, energy efficiency goals established in the PNAEE resulted in specific actions taken in other areas of relevance to the PNAEE. In these areas, so far the implementation of the plan has also been successful. In particular, joint efforts made in areas traditionally prone to higher consumption, such as transportation and interior air conditioning, allowed the achievement of the goals established in the PNAEE for the year 2016.

A number of programs were also introduced in the transportation sector, with a view to foster energy efficiency of vehicles, encourage the use of public transportation (especially in higher density urban areas) and promote a more dynamic energy management of transportation fleets, including passenger rail networks. According to the DGEG, until 2013, this sector achieved 83% of the goals established in the PNAEE for 2016.

Specific measures aiming at improving energy efficiency were also adopted in the residential sector (both at home and the workplace), including the introduction of energy efficiency certification in buildings. Higher integration of renewable energy sources in residential buildings, equipment and services are also among new bets (in particular, solar heating).

In the industrial sector, the Consumption Rationalization Plans (*Planos de Racionalização do Consumo* – “PRENs”) are of particular relevance. These plans encourage higher energy efficiency in intensive consumption buildings, such as industrial facilities and plants. PRENs not only assess the status of these facilities, but also allow for energy consumption rationalization, accounting for a 7% decrease in energy consumption of these buildings.

Though it is not possible to quantify the impact of the PNAEE in the agricultural sector, a number of initiatives aiming to decrease energy consumption were recorded.

Finally, from a behavioral standpoint, and although this might be the most difficult to assess, the number of awareness and communication campaigns aiming at promoting energy efficient consumer habits and behaviors are on the rise.

Until 2016, 63% of the PNAEE's goals are expected to be met.

Morais Leitão, Galvão Teles, Soares da Silva & Associados

Portugal has consistently invested in improving the results of its policies on energy efficiency, in line with the European Union route on this subject. In effect, following Directive no. 2012/27/EU, of the European Parliament and of the Council, of October 25 and facing the recent economic recession which significantly altered the standards national consumption of primary energy, the Government established a new general goal for the reduction of

25% of primary energy consumption (as opposed to the goal of 20%, previously envisaged), which shall require an additional reduction effort between 1.2 and 1.7 Mtep, as well as a 30% reduction of primary energy consumption by the Portuguese State, which thereby signals the importance of this subject.

The success of energy efficiency measures is mainly assessed through a constant monitoring of its results and the analysis of their cost-benefit ratio. Therefore, we believe it is broadly positive the fact that PNAEE 2016, approved by the Resolution of the Council of Ministers no. 20/2013, of April 10, results from a revision and update of the PNAEE 2008, approved by the Resolution of the Council of Ministers no. 80/2008, of May 20. This will allow to take advantage of and encourage the measures that have been successful and replace those which potential turned out to be lower than expected by alternative measures that may have better results on achieving the same goal.

Recently, Decree-Law no. 68-A/2015, of April 30, which completed the transposition of the discipline contained in Directive no. 2012/27/EU, of the European Parliament and of the Council, of October 25, for the internal legal system, and Decree-Law no. 194/2015, of September 14, introduced some relevant changes on what energy efficiency is concerned.

PLMJ, Sociedade de Advogados

From the point of view of implementation and impact, the PNAEE 2016 should be considered jointly with the National Action Plan for Renewable Energies (*Plano Nacional de Ação para as Energias Renováveis – PNAER*) for the period 2013-2020 (PNAER 2020). This is because the 2013 revision integrated both plans and concerted the policies and objectives to minimise the investment necessary, also through the energy sector's contribution to reducing CO₂ emissions¹.

Until 2016, in terms of energy efficiency, the PNAEE 2016 provides for an induced energy-saving of 8.2%, close to the 9% indicative target defined by the European Union (Directive 2006/32/EC on energy end-use efficiency and energy services), with a final energy saving of 1501 ktoe and a primary energy saving of 1773 ktoe. The current targets are less ambitious because the previous PNAEE set a target of 10%. The success of the PNAEE 2016 will therefore also depend on the success of the PNAER 2020 – providing for a 31% incorporation of renewable energy sources into final gross energy consumption and 10% of this in the transport sector, a reduction in primary energy consumption of 25%, in general, and of 30% for public authorities. These objectives exceed those in Directive 2012/27/EU, which approved a common framework of measures to promote energy efficiency in the EU by 2020 (EED).

In summary, the reduction of energy consumption is distributed into six specific areas (Transports, Residential and Services, Industry, State, Behaviours and Agriculture) and it includes 10 programmes to achieve the objectives of the PNAEE 2016.

¹ As stated by the ADENE - Agência para a Energia (energy agency), see <http://www.adene.pt/planos-e-programas>

These policies are in line with other existing partial programs. They are also in line with the access conditions and financing rules for projects in the area of sustainability and efficiency in the use of resources, and with the incentives to environmentally friendly mobility (consider the laws on licensing aimed at bringing competitiveness between operators of charging points for electric vehicles of August 2015).

Above all, since the approval of Decree-Law 68-A/2015 of 30 April², the Portuguese legislative framework appears to guarantee the continuing success of the implementation of the PNAEE and the EED.

We would only highlight some barriers to that success³, such as the possible ineligibility of certain measures to qualify as energy savings under the EED and the insufficient information on the methodology for quantifying certain energy savings.

CMS Rui Pena & Arnaut

Portugal woke up to energy efficiency too late. Only in 2005, with the launch of what was called, with pomp and circumstance, the "National Strategy for Energy"⁴ was any thought given to the matter, setting a goal for 2015 - 10 % efficiency savings, particularly in respect of transport, buildings and consumer behaviour, with special focus on the State itself. The first PNAEE was approved in 2008, already⁵ after Directive No. 2006/32/CE, of the European Parliament and the Council, dated 5 April, that stipulated an optimisation of 20 % in energy consumption for 2020.

More recently, the last Government (XX) proposed, in its manifesto, to achieve a 25 % reduction in consumption by 2020, and 30 % in 2030, obliging the Public Administration, as the first example, to reduce consumption by 30 % in the same period. In terms of project, I consider the proposed measures appropriate, but, in terms of implementation, they are long overdue. Successive modification of the "Consumption Efficiency Promotion Plan" (PPEC), promoted by the Energy Services Regulating Body (ERSE) and the General Directorate for Energy and Geology (DGEG), has not provided concrete results. Available means for promoting the desired behaviour change among players are scarce.

I do not know any specific statistics on the global result of these measures, but it is already possible to define a positive trend in the results obtained. There are, on the other hand, some particular cases of success. In aggregate terms, looking at the available data on consumption and energy intensity, in this period there has been a significant reduction which indicates, despite the stagnation/recession factor of economic activity, we are, nevertheless, on the right track.

² The Decree that tardily implemented the provisions of the EED.

³ See the comparative studies of the PNAEEs of the Member States: J. Rosenow (e outros), Study evaluating the national policy measures and methodologies to implement Article 7 of the Energy Efficiency Directive, 2015; The Coalition for Energy Savings, Implementing the EU Energy Efficiency Directive: Analysis of Article 7 Member States reports, 2014.

⁴ Approved by Council of Ministers' Resolution No. 169/2005, of 24 October.

⁵ Approved by Council of Ministers' Resolution No. 80/2008, of 20 May, the subject of successive revisions.

Indeed, according to DGEG statistics, in terms of primary energy consumption, ktep was reduced from 27,087 in 2005 to 21,515⁶ in 2013, and end-consumption of energy in the same period fell from 19,579 to 15,167⁷ ktep. Energy intensity, calculated as tep/M€, also decreased between 2005 and 2013,⁸ from 174 to 151 in the Industry sector; from 22 to 17 in the Services Sector; 40 to 32 in Transport sector; 159 to 138 in Agriculture and Fisheries sectors, respectively, and from 33 to 25 in the Families sector.

Signs from the Public Administration are also beginning to look positive. One example is the recent Sustainable Mobility Programme for Public Administration 2015-2020, launched on 28 July 2015, which targets replacement of a total of 1,200 conventional vehicles by electric vehicles (about 7 % of the existing fleet) and a 20 % reduction of CO₂ emissions thereof.

Despite the delay and scarcity of resources available for implementing this strategy, and the fact that there is still much to do, I think that the message has been passed correctly and with a certain pedagogy.

Sérvulo & Associados

About three years ago, Directive 2012/27/EU reiterated the Union's objective, in place since the end of 2006, of saving 20% of the total primary energy consumption by 2020. Moreover, once having confirmed that the Union was not on track to achieve its energy efficiency target, said Directive found it necessary to update the applicable legal framework.

In such a context, since buildings represent 40 % of the Union's final energy consumption, they were considered to be crucially important. Therefore, buildings owned by public sector bodies, and social housing bodies governed by public law, were given special emphasis, since not only do they account for a considerable share of the building stock, they also have high visibility in public life, and, in some cases, serve so-called vulnerable consumers.

In order for Portugal to pursue the targets set forth at a European level:

- The «Grandes Opções do Plano (major planning options) for 2012-2015» established an energy saving target of 20% in the country's primary energy consumption and a 30% energy efficiency target for the general government, both to be achieved by 2020.
- The «National Energy Efficiency Action Plan for 2013-2016» («NEEAP») was approved.

The NEEAP identifies six primary fields (Transport, Household and Services, Industry, State, Habits and Agriculture) and predicts the implementation of programmes and measures

6 Data estimated by DGEG.

7 As per previous note.

8 2013 data are still estimated.

which aim to reduce energy consumption in new and already existing buildings in the fields of «Household and Services» and «State». In particular, some of the measures concerning the «State» are based on the «Energy Efficiency Programme for Public Administration» («[ECO.AP](#) Programme»), a programme conceived for the implementation of energy efficiency policies in public equipment/buildings through the use of energy service companies, and which establishes contractual and operational mechanisms in an articulate and comprehensive manner, with a view to creating economies of scale and maximizing the technical coherence of the services rendered.

However, as it happens, the [ECO.AP](#) Programme only applies to general government services and bodies, with possible extension to bodies governed by public law. It does not seem to contemplate the accession of most of the so-called «specific institutions for social solidarity» (IPSS), a vast number of voluntary organizations (there appear to be more than 5000) whose facilities, resources and activities are geographically spread throughout Portugal. In addition to being the owners of substantial real estate, these institutions manage buildings and equipment belonging to the State and local authorities.

The building stock held and managed by the IPSS presents an energy savings potential which is vital not only to comply with energy efficiency targets, but also for the efficiency of the social economy, fostering its sustainability and the maximisation of public bodies' resources. Therefore, assuming it is not possible to apply [ECO.AP](#) procedures (since each IPSS has management autonomy), it seems important to create mechanisms for the promotion of power efficiency in IPSS facilities, in an equally comprehensive and co-ordinated manner.

Uría Menéndez – Proença de Carvalho

Although based on a overarching and complex legal framework and of dispersed implementation across several statutes, the PNAEE has shown to be a good programmatic plan, sufficiently transversal for the performance of its goals. However, doubts arise as to the level of its effective application.

In fact, with an average compliance rate below 50% a lot of work remained to be done under the PNAEE 2008. And if the results of PNAEE 2008 were short of its objectives, the bar has been raised even higher with the the approval of the PNAEE 2016 by the Resolution of the Council of Ministers nr. 20/2013, of 10 April, which sets a decrease of 25% in primary energy consumption by 2020 as a goal.

At first instance, the Government seems to have acted well while reviewing together the PNAEE and the National Plan for Renewable Energies (PNAER) 2020, aligning the respective objectives in light of primary energy consumption.

In addition, the PNAEE 2016 seems to reflect a more adequate approach to the implementation of its proposed goals by reinforcing measures that have already been put into practice and shown positive results (v.g., promoting the use of LED or efficient halogen lamps, hospital cogeneration, energy certification in private residences). In particular, it is foreseen an increase in energy certification of State owned buildings that may generate a saving of 66.133 tep in 2016 already.

On the other hand, the PNAEE 2016 is greatly expected to be executed by means of regulatory measures (v.g., penalties on inefficient equipments, minimum requirements of energy compliance, mandatory energy labelling, mandatory energy audits), which implementation will be largely dependent of its monitoring and application of coercive measures in case of breach of regulations. Unfortunately however the regime enacted by PNAEE 2016 does not grant monitoring competences to a single administrative authority, deviating itself from the one-stop-shop model, which we believe to be the most adequate to implement transversal measures.

On the contrary, PNAEE 2016 seems to overburden the competences of entities such as the Directorate General for Energy and Geology or ERSE, IP, which are already short on resources.

However, beyond the doubts already raised on the monitoring of the regulatory measures, the plan's financing mechanisms may also not offer all the guarantees necessary to its efficacy if one looks particularly at the budgets available for the projects. As an example one should look at the mere €3,000,000.00 available to the Energy Efficiency Fund for tenders open as of 30 September 2015.

In short, although the legal framework is coherent, overarching and complemented by sector legislation (v.g., Decree-Law nr. 118/2013, of 20 August, approving the Buildings Energy Certification System, the Energy Performance Regulation for Housing Building and the Energy Performance Regulation for Services and Commerce) and in theory adequate to the fulfilment of its goals, PNAEE 2016 does not seem to benefit from a centralized implementation system with sufficient human and financial resources.

Vieira de Almeida

When it comes to fostering energy efficiency, the Portuguese legal framework is actually rather ambitious, but it falls short of implementing and monitoring measures to that end.

We do praise the determination to handle energy efficiency issues as a priority and essential to the country's development.

However, the achievement of these ambitious targets and goals in practice falls short of expectations or rather the (sparse) results known and disseminated prevent us from being able to assess that those goals were satisfactorily achieved.

When we access the Energy Efficiency Program webpage on the Public Administration website ([ECO.AP](#)), we can only find data for 2010 pertaining to just 29 public entities.

We believe that greater dissemination of public sector initiatives and results obtained would bring about a change of mentality, which we find would have a pivotal role in the pursuit of a solid energy efficiency policy.

But this alone will not be enough considering the long-term nature of the energy efficiency investment policy, which requires financial investments notably in technological changes.

On the other hand, the delayed implementation of the cogeneration policy has been setting back investments, and the uncertainty (still) regarding investment support in this sector has been keeping aside both domestic and foreign investment. It should be noted that cogeneration is clearly supported at European level (as clearly results from the European directive), without that commitment being truly felt at national level.

We believe that the legal framework designed for the green growth policy, which includes several energy efficiency measures, makes a very positive difference.

However, in practice no real investment in energy efficiency is yet noticeable (we believe once more as a result of the economic crisis).

And from our perspective, it is clearly an area for both economic and legal investment. Energy efficiency issues forego economic motivation (they are an inevitable result of such motivation) but they must be designed and implemented properly (including legally) to actually produce visible results.

EnerXXI – Think Tank de Energia

Energy efficiency is present in every long term energy policy scenario that includes environmental goals and is one of the main factors for their achievement. While all other measures impact the energy mix, energy efficiency measures promote energy consumption decline and, as long as it doesn't force value destruction, is a positive action.

2005 "National Energy Strategy" report established a 10% efficiency goal for 2015, with a special focus on the transport sector, buildings and consumer behaviour and highlighting the role of the State.

The Energy Efficiency National Action Plan (PNAEE), the strategic mechanism deployed by the Portuguese government to formally promote Portugal's energy efficiency European goals and define actions for their achievement, is in force since 2008, with the present multiannual program ending this year (2013-2016).

Until 2016, in terms of energy efficiency, PNAEE forecasts an 8.2% energy saving, not far from the EU Directive 2006/32/CE 9% reference goal, after a reduction on the 2008 PNAEE 10% goal (see figure 1).

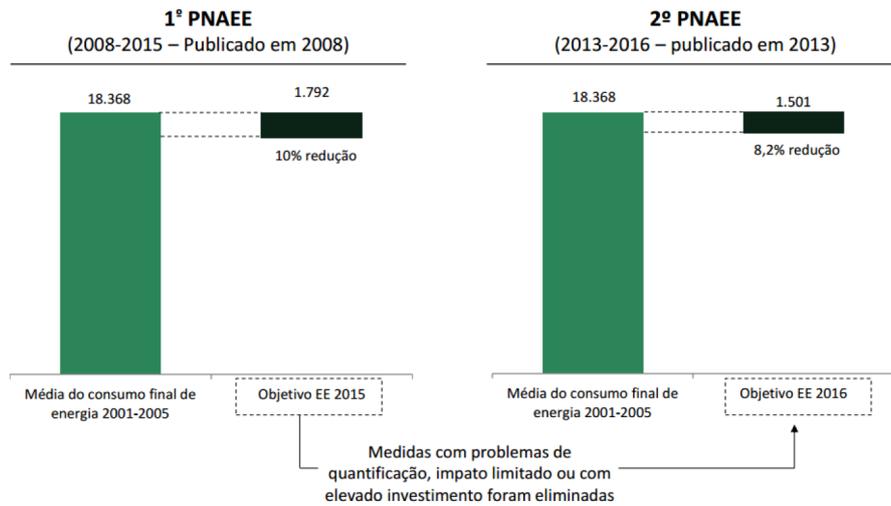


Fig. 1 – Objetivos PNAEE 08-15 vs PNAEE 13-16 (fonte DGEG)

The PNAEE identifies six distinct intervention areas, explicitly, Transports, Home and Services, Industry, State (supported by [ECO.AP](#), a specific program), Behaviours and Agriculture, and includes several energy efficiency promotion measures, designed to meet 2016 and 2020 goals for each of these axis (see figure 2).

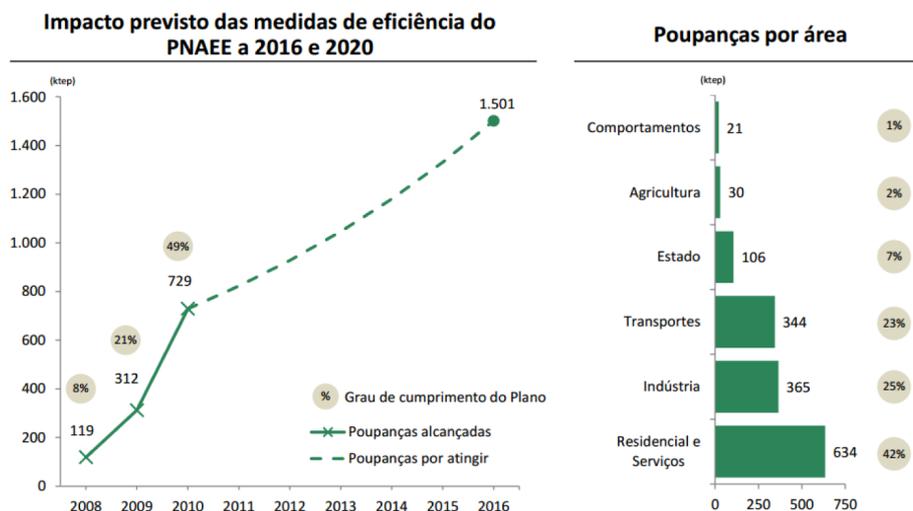


Fig. 2 – Objetivos do PNAEE até 2020 por área de intervenção (fonte DGEG)

2013 Renewable Energies National Action Plan (PNAER) review, formalized through the 20/2013 Council of Ministers Resolution, promoted the integration of both plans and its policy and goals coordination in order to minimize the total cost of the programs, also taking into account the energy sector contribution for the CO₂ emissions reduction plan.

In order to promote its achievement it was also created the Energy Efficiency Fund (FEE), through the 50/2010 Decree, with the mission to catalyse energy efficiency of citizens and corporations, support energy efficiency programs and promote behaviour changes.

In April 2015 the Portuguese government published the 68-A/2015 decree, concluding the transposition of the 2012/27/EU Directive (which supported the end of 2006 goal to reduce EU primary energy by 20% until 2020), and the 194/2015 decree, with relevant impacts regarding energy efficiency regulation.

Moreover, in July 2015 was announced the Public Administration 2015-2020 Sustainable Mobility Program, aiming the replacement of 1200 conventional PA vehicles (about 7% of total PA fleet) by electric vehicles and with it a 20% CO₂ emissions reduction.

Adequacy

20/2013 Council of Ministers Resolution highlights in its introduction that, although the national results were aligned with European goals, the productive sector still presented energy intensity levels 73% above European average. This score, in the words of the Portuguese government at the time, “enhances the need to intensify the efforts of a direct action on the end energy, as supported by PNAEE, especially in the productive economy, as opposed to higher investments in the energy offer activity”.

At PNAEE official site (www.pnaee.pt) is possible to further understand the program financing mechanism: “2016 PNAEE is essentially supported with regulatory measures (e.g. penalties on inefficient equipment, class energy performance minimum requirements, mandatory energy labeling, mandatory energy auditing), tax differentiation mechanisms, [e.g. road tax (IUC), vehicle tax (ISV) and fuel tax (ISP) positive discrimination], and financial funding specially dedicated to energy efficiency programs, as the FFE [...], the power demand efficiency program (PPEC), sponsored by the Energy Services Regulation Agency (ERSE) as part of the Climate Change National Plan (PNAC), the Portuguese Carbon Fund (FPC), established by the 71/2006 Decree-Law, from March 24, with the mission to support, among other things, greenhouse gas emission reduction projects, Portugal 2020 program and other EU financial mechanisms.”.

Most of the participant law firms present a positive view on the present legal framework.

Uria Menéndez – Proença de Carvalho mentioned that “*the PNAEE has shown to be a good programmatic plan, sufficiently transversal for the performance of its goals*”.

Cuatrecasas, Gonçalves Pereira highlights the Plan's incremental structure, with “*the current version of PNAEE [being] based on a diagnosis of the performance of previous versions, with an assessment of the achievement of the objectives outlined in said versions.*” It is this

law firm understanding that this conceptual approach is positive, for “*this permitted a more perfect description of the current situation at the date of drafting the current version of the plan, and the adaptation of measures and partial objectives in accordance with more realistic considerations*” and “*assess in generally positive terms the regulatory framework resulting from the PNAEE, which seems appropriate given the type of measures and objectives set out in the document*”.

For **Miranda & Associados**, PNAEE “*has proven to be adequate to national reality, and achieved positive implementation and impact levels through joint actions performed in a number of activity sectors*”.

Morais Leitão, Galvão Teles, Soares da Silva & Associados “*believe[s] it is broadly positive the fact that PNAEE 2016 [...] results from a revision and update of the PNAEE 2008, [...] [for] this will allow to take advantage of and encourage the measures that have been successful and replace those which potential turned out to be lower than expected by alternative measures that may have better results on achieving the same goal*”.

Vieira de Almeida also believes “*that the legal framework designed for the green growth policy, which includes several energy efficiency measures, makes a very positive difference*”.

Execution

PNAEE execution rate has not been published as regularly as it should and last available registers date back to 2013. In this year, the program presented an overall 60% and 44% execution hen compared with 2016 and 2020 goals, respectively. Notwithstanding, this execution hasn't been achieved linearly through all intervention sectors, with a very relevant part of it being achieved in the Transport sector (table 1).

Regarding execution rates, law firms present mixed opinions, highlighting positive and negative aspects of the action plans that have been designed to meet the program targets.

Programa	Meta 2016 (tep)	Execução	Meta 2020 (tep)	Execução
Agricultura	30,000	0%	40,000	0%
Comportamentos	32,416	50%	32,416	50%
Estado	153,634	23%	295,452	12%
Indústria	377,221	64%	521,309	46%
Residencial e Serviços	836,277	58%	1,098,072	44%
Transportes	343,683	82%	406,815	69%

Tabela 1 - Contribuição, por programa, de energia primária poupada (tep) até 2013 para as metas de 2016 e 2020 (fonte PNAEE)

Garrigues highlighted some of the formal mechanisms put together by the last 10 years governments (some of them not a part of PNAEE) as is the case of *"the energy certification system, of the energy performance regulation of buildings, the renewable system on time as well as the measures "Renew Home & Office." Also in terms of energy labelling and illumination (tax on lamps), legislative diplomas of energy efficiency promotion stand out."* This law firm also mentioned the Transport sector as the most challenging one regarding energy efficiency targets and oil consumption reduction during the next years, namely through *"auditing in energy efficiency, promotion of public transport, renewal of the vehicle fleet by promoting electric vehicles and biofuels"*.

Miranda & Associados highlights positive results in the public sector and potential savings on operational energy costs through the enforcement of the *"Public Sector Energy Efficiency Program (ECO.AP), [allowing] for the setting up of low consumption energy alternatives and other actions aiming at achieving energy certification of State buildings."* It also considers that PNAEE has presented good results in the remaining axis of action, highlighting the importance of the Consumption Reduction Plans (PRENs).

According to **PLMJ Sociedade de Advogados**, *"Above all, since the approval of Decree-Law 68-A/2015 [...] , the Portuguese legislative framework appears to guarantee the continuing success of the implementation of the PNAEE and the Energy Efficiency Directive"*. On the negative side, they *"only highlight some barriers to that success, such as the possible ineligibility of certain measures to qualify as energy savings under the EED and the insufficient information on the methodology for quantifying certain energy savings."*

CMS Rui Pena & Arnaut considered that, *"despite the delay and scarcity of resources available for implementing this strategy, and the fact that there is still much to do, [this law firm] thinks that the message has been passed correctly and with a certain pedagogy"*.

Úria Menéndez – Proença de Carvalho forecasts *"the PNAEE 2016 is greatly expected to be executed by means of regulatory measures [...] which implementation will be largely dependent of its monitoring and application of coercive measures in case of breach of regulations. Unfortunately however the regime enacted by PNAEE 2016 does not grant monitoring competences to a single administrative authority, deviating itself from the one-stop-shop model, which we believe to be the most adequate to implement transversal measures. On the contrary, PNAEE 2016 seems to overburden the competences of entities such as the Directorate General for Energy and Geology or ERSE, IP, which are already short on resources"*.

This law firm also alerts to the fact that *"beyond the doubts already raised on the monitoring of the regulatory measures, the plan's financing mechanisms may also not offer all the guarantees necessary to its efficacy if one looks particularly at the budgets available for the projects. As an example one should look at the mere €3,000,000.00 available to the Energy Efficiency Fund for tenders open as of 30 September 2015"*.

Vieira de Almeida considers that *"when it comes to fostering energy efficiency, the Portuguese legal framework is actually rather ambitious, but it falls short of implementing and monitoring measures to that end"*.

Impact

The Portuguese and European legal framework is, in 2016, significantly different from what it was in 2005, by the time the National Energy Strategy was published. These two moments hold a serious economic crisis between them, forcing a GDP decrease. This promoted an energy consumption decrease, an important help for meeting 2020 goals. On top of this, the Transport sector has seen an energy efficiency strategy from cars manufacturers which, along with fleet renewal, promoted significant emissions reductions, even taking into account the doubts surrounding private results credibility, due to the recent scandals, namely the VW case in USA.

The targets should be indexed to energy intensity, the ratio between economic growth and energy consumption growth. Its inexistence falsifies target achievement, especially after a serious economic crisis. This lack of calibration would allow for a case when such a significant GDP decrease would, in itself, drive target fulfilment without any specific action.

Going back to PNAEE's impact concrete analysis, **Cuatrecasas, Gonçalves Pereira** highlights, on the down side, *“the inconsistency of some of the measures among themselves. For example, “the promotion of sustainable mobility policy, which assumes the development of public transport infrastructures (...) in conjunction with the implementation of measures restricting the movement and parking of the private vehicles”, should integrate a reflection on municipal policies concerning the creation of paid parking spaces close to public transport stops”*.

According to **CMS Rui Pena & Arnaut**, *“successive modification of the “Consumption Efficiency Promotion Plan” (PPEC), promoted by the Energy Services Regulating Body (ERSE) and the General Directorate for Energy and Geology (DGEG), has not provided concrete results. Available means for promoting the desired behaviour change among players are scarce. [...] In aggregate terms, looking at the available data on consumption and energy intensity, in this period there has been a significant reduction which indicates, despite the stagnation/recession factor of economic activity, we are, nevertheless, on the right track”*.

For **Sérvulo & Associados**, the *“the [ECO.AP](#) Program only applies to general government services and bodies, with possible extension to bodies governed by public law. It does not seem to contemplate the accession of most of the so-called «specific institutions for social solidarity» (IPSS), a vast number of voluntary organizations (there appear to be more than 5000) whose facilities, resources and activities are geographically spread throughout Portugal. In addition to being the owners of substantial real estate, these institutions manage buildings and equipment belonging to the State and local authorities. The building stock held and managed by the IPSS presents an energy savings potential which is vital not only to comply with energy efficiency targets, but also for the efficiency of the social economy, fostering its sustainability and the maximisation of public bodies' resources. Therefore, assuming it is not possible to apply [ECO.AP](#) procedures (since each IPSS has management autonomy), it seems important to create mechanisms for the promotion of power efficiency in IPSS facilities, in an equally comprehensive and co-ordinated manner”*.



3. Renewable energy: direct aid to investment, incentives for placing energy on the network ("feed-in tariffs") or the free market only conditioned by the impact of the carbon tax?

Abreu Advogados

In the Portuguese market coexists the different models outlined above.

With regard to direct supports to investment, it must be stated that they do exist but also recognize that there has been a clear decrease in its assignment, which is not unrelated to the economic crisis experienced by the country and the subsequence need to change the paradigm of the energy sector promotion policies.

Under the PNAER it may be pointed out, as an example, a set of funds that promote renewable energy, like the EEF (Energy Efficiency Fund), the ISF (Innovation Support Fund), which is, however, suspended in its activity related to projects on energetic innovation, PCF (Portuguese Carbon Fund), and other regional projects related to progress and innovation, under the programs of the Portugal 2020.

At the same time other kind of support to production which falls out of the free market rules was adopted by the Ordinance no. 251/2012, August 20th. This diploma establishes certain incentives to power guarantee, which can be divided in incentives to availability and to investment. This regime was set to ensure that there is always energy available in the National Electric System. Therefore, in very specific cases, the State will remunerate the producers for the production of energy. Nonetheless, this operates as a limitation to the producer's free will to shift the level of production as he sees fit, according to market prices (assuring production and price stability).

As far as the feed-in tariffs go, the situation has changed as already mentioned.

The national strategy that regulates the feed-in tariffs is the PNAER, which was instituted by the Minister's Resolution no. 20/2013 and establishes two remuneration systems: i) Ordinary, where producers sell electricity according to the interest demonstrated in each moment by

the system and ii) Special, production subject to special provisions such as the production by cogenerating and endogenous resources, renewable and nonrenewable, not subjected to other specific provisions.

Two remuneration schemes coexist: i) general regime, in which electricity producers sell the energy they create through organized markets or through the celebration of bilateral contracts with end consumers or other energy retailers; ii) guaranteed remuneration scheme, in which the produced energy is delivered to a last resource retailer, against the payment for the energy directly to the producer.

The award of the guaranteed remuneration scheme is preceded by a public tender.

Though in a phased manner, from 1995 to 2006 the Portuguese market was fully liberalized, broadening to all consumers/providers the ability to choose their position in the energy market.

Although the market is free, there are situations where that freedom is limited, whether it is by the imposition of limits to the emission of polluting gases (on combustion derived energy) or through remunerated production scheme.

Cuatrecasas e Gonçalves Pereira

It is known that in the current conditions the creation of renewable energy production infrastructures usually involves high levels of investment, which will be extremely difficult to remunerate from their regular exploration in a purely competitive environment. This, combined with the generally accepted idea that renewable energies are a sustainable solution and, in certain cases, such as the Portuguese, help reducing dependence on imports, led to the acknowledgement, in political terms, of the need for corrective mechanisms that would allow the development of this sector. This acknowledgement originated the various support and subsidizing schemes that have been used for that purpose.

For investors, incentives to investment have the advantage of reducing financial stress that would result from the use of own funds. However, the generalization of such incentives may lead to the development of excess capacity, which can be avoided by defining eligibility rules limiting the resources available to a given limit number of units to be installed. The discussion should then center on the identification of the most appropriate modalities for the granting of these incentives.

The option for subsidizing the feed to the network proved to be particularly interesting for certain sectors, such as cogeneration or individual solar panels, and resulted in the multiplication of this type of units. The promoters of this type of units achieved a double effect of a reduction in their energy bill due to consumption decrease, and of a source of extra revenue derived from the price paid by the network operators for the energy fed-in to the network. The model was also used in Portugal in the case of wind farms, as an alternative to direct investment incentives.

Both these models introduce distortions to the normal operation of the markets, and can help in creating in consumers an expectation that the resulting lower prices (which in fact are made possible because there are concurrent cheaper solutions in simultaneous operation) will be perpetually extended. This is in turn conducive to tariff deficits.

The last mentioned alternative, conditioning the promoters' and consumers' free enterprise solely to the impact of the carbon tax would, in theory, be more attractive, because it would allow the reconciliation of disparate concerns that present obvious political impact: environmental, social, economic development, etc. The problem will be how to "set" the rate, how to calculate and apply the tax, especially if we take into account the voracious appetite of the State for revenue, which might change the whole background of the problem. We should remember the annulment of the incentives that were given in the 1990s to the conversion to unleaded fuels, which were introduced on the market at lower prices as a result of a lower tax rate. The problem is that demand for this type of product is relatively inelastic, because the motors do not allow for alternatives. That's why when it was concluded that the new fuels had already attained a certain market share, showing a growth trend, the incentive was annulled. In the absence of an alternative, the temptation is strong.

Garrigues

It depends on the energy policies that are at each time defined and on the intended penetration level of renewable energy.

As regards the production of electricity from renewable energy sources, it seems that, if at first it was justified to subsidize the investment in order to ensure the development of projects in renewable energy and thereby the fulfillment of international commitments undertaken by Portugal, ensuring a guaranteed return to the promoter for a certain period of time and hence significantly reducing the commercial risk, today the reality is quite different.

The technologies are more developed, more mature and more affordable, which justifies more and more the approach of the regime of renewable energy to the market regime, reserving the subsidies for R&D projects and projects considered strategic from a national interest point of view.

It seems to us so that incentives and financial support should be allocated to new emerging technologies (enhancing technological development), which precisely by not being able to compete under market rules require support to its development, but always in the perspective of a future progressive reduction in support and incentives and in the approach to the market system. This, we believe, should be the philosophy behind the use of feed-in tariffs mechanism.

In any case, any decision on the allocation of investment incentives in the energy area should be based on economic rationality criteria, so that they do not create added burden on the public purse, to the final customer or to consumers in general.

Experience has shown that the extreme difficulty in reflecting in the electricity tariffs all the energy policy costs, may lead to the creation of a tariff deficit whose costs cannot be reflected directly and immediately in the price of electricity which would lead to its progressively worsening, resulting in a deficit in constant growth with burdensome costs to the economy.

It is true that the costs with the feed-in tariffs are not the exclusive source of the tariff deficit for which other factors also contribute.

However, any decision on the subsidization of renewable energies will always tend to have a financial support proving the respective sustainability, and should always keep in mind the goal of ending the tariff deficit until the announced year of 2022.

Being currently an ongoing set of measures to eliminate the tariff deficit over the next seven years, it seems that in the future, the promotion of renewable energies should be done tending to be through mechanisms other than direct subsidies or feed-in tariffs.

It is therefore necessary to create mechanisms to continue to ensure and encourage investment in renewable energy, particularly for the important role they play in reducing imports and increasing exports, in job creation and in environmental quality, without enhancing or increasing charges for the next generations.

Miranda & Associados

Fossil energy resources are scarce in Portugal. For this reason, investment strategies were delineated in order to promote investments in endogenous renewable energies, and as a result to decrease the country's external energy dependency. Until 2012, a compensation-based incentives regime establishing feed-in tariffs was in force. Investors producing energy from renewable sources and selling it to the network used to benefit from a guaranteed tariff remuneration model, which proved to be inefficient. The priority is now the transition from this State intervention regime to a free market competition regime where State aid is kept at minimum levels, in order to protect and foster the growth of renewable energy production.

The PNAER for the period 2013-2020 defines national goals relating to energy quotas arising from renewable energy whilst promoting an energy market operating under free competition. As such, investment decisions are no longer based on the prospect of guaranteed compensation, given that the energy market is mainly governed by free competition. On this basis, consumers are free to select their supplier in accordance with the different prices and conditions offered in the market. This means that, in a way, the risk of investing in renewable energy sources increases.

It should be noted that Decree-Law no. 35/2013 of 28 February 2013, which establishes an option regime for electric power producers using small hydroelectric power plants and amends the compensation framework applicable to existing wind power plants, aims at ensuring the stability of remuneration of wind power producers and mitigating the impact of

the energetic bill of extra costs arising from incentives to wind power production. The main purpose of this legislation is to mitigate the impact of the transition from the guaranteed compensation regime to uncertainty and competition. As such, small hydroelectric power plants which already benefitted from feed-in tariffs can opt to continue on that regime for an additional twenty-five year period from the date of the award of the operating license. As for wind power production, investors who already had wind power plants operating on a feed-in tariff basis may now choose to remain on that basis for an additional period of five years. Upon expiry of these additional periods, investors shall be remunerated in accordance with free market rules.

Despite the ambitious goals set by the PNAER and the EC guidelines, new investment in renewable sources has been scarce. Indeed, over supply has refrained investment attempts in such sources, particularly considering that a significant number of producers have already invested under the guaranteed feed-in tariff regime. New investors will therefore have to compete against one another, in addition to competing against existing producers. To help ensure that renewable energy is traded under the free market regime upon expiry of the guaranteed feed-in tariff periods, green certificates and origin guarantees have been established.

Morais Leitão, Galvão Teles, Soares da Silva & Associados

To know what is the best renewables support scheme is a “hot topic” of today, especially within the European Union where it has been recently discussed the admissibility of feed-in tariffs pursuant to the rules on state aid.

In the Communication 2014/C200/01, which contains the “Guidelines on State aid for environmental protection and energy 2014-2020”, the European Commission establishes that, in what support to renewables is concerned (paragraph 124), “it is important that beneficiaries sell their electricity directly in the market and are subject to market obligations.” It also adds that, except for certain cases, from January 1 2016 new support schemes to the generation of renewable energy should be granted as a premium which is added to the price by which generators sell their electricity directly in the market.

Investment support through the subsidizing of construction costs of renewable energy power plants is an advantageous support scheme for promoters and, therefore, is usually effective in promoting investment on renewable energy generation. Still, bearing in mind the economic and financial status of the country, this type of support may not be the most appropriate for the case of Portugal. Also, the granting of this kind of support scheme requires a tight supervision in order to ensure that cumulative investment support does not over compensate producers.

On the other hand, it is not yet easy to determine whether a free market conditioned by the impact of a carbon tax shall be sufficient to foster investment in new renewable energy generation projects, since the effects of this type of support are yet little known.

As it would be expected, this is a complex issue and the answer will probably go through the combination of several support mechanisms, according to those which are best suited for different types of projects and for the social-economic and financial context of each country.

Notwithstanding, it is our opinion that the support mechanism which will have a more generalized implementation in the future of the European Union will be the market premium (an amount, fixed or variable, which accrues to the price by which generators sell their power in the market), which is used in Germany and Finland, among other countries. Despite having an architecture close to the feed-in tariffs the premium mechanism differentiates from the first essentially by forcing generators to put their power in the market and be subject to the risk arising from it, therefore being a support mechanism more suited for mature technologies.

PLMJ Sociedade de Advogados

The main factors influencing cross-sector renewables' policies include the geo-natural and population socio-economic features of a country and/or region, complemented by technological developments and associated cost effectiveness when considering their benefits.

The carbon tax or carbon pricing represents the narrow sense of the polluters pay principle: ensuring direct market internalisation of externalities. It would be very difficult for this approach to succeed if implemented alone.

Some sector experts believe this taxation or this pricing are uncertain and depend on how governments allocate the credits. Furthermore, carbon taxation may become regressive, i.e., burdening poorer groups unnecessarily, especially if there are no viable alternatives to choose from. Controversially, it may also be argued that, regardless of the credit allocation, any mechanism inducing an increase in carbon cost clearly deters stakeholders, industries and consumers from investing in or acquiring a certain product or service. In the medium to long run, this may impair implementation and development of carbon intensive projects.

In contrast, direct investment support may provide for short to medium-term technological R&D and a boom in the generation base. However, this support may, in the long run, and if not combined with other policies, become unsustainable for governments if there is no financial return or effective independent market creation, considering the continuous need to maintain efficiency and find new forms of supply due to the increasing world population, with growing domestic and industrial consumption.

Optimists about the future share of renewables base their forecasts on prime cost efficiency – mandatorily entailing cost reduction –, long-term support policies (subject to any necessary amendment/revision, although with assurances of stability) and physical and ideological alterations in consumption. All these greatly depend on sound and combined planning. One point is certain, these measures – preferably combined – must allow flexible

energy systems, taking into account all surrounding and circumstantial factors, including a market assessment of financial risks and returns and social acceptance.

Looking at already tried models, we can identify similarities in policies implemented across times seeking to achieve this evolution. Most countries where renewable energies already represent a successful share began to foster renewable projects with direct investment support. They did this through guaranteed financing investment programmes and tax breaks in technology acquisition. Most importantly, a successful share has usually been associated with high feed-in tariffs allowing a certain payback, which were then decreased over time with technology maturity and, finally, disappeared.

In the case of Portugal, like other countries, tried and tested renewable energy generation technologies (e.g., wind and solar photovoltaic) reached market regime leaving feed-in tariffs to yet non-commercial technologies. This change in paradigm also occurred due to the unsurmountable evidence of at least a decade-long track of compounded cost and the high cost of the Welfare State (in the sense of guaranteed remuneration aimed at investment and overall access), now to be paid by consumers - in a market said to be "liberalised" but not yet fully competitive, thus requiring supportive policies.

CMS Rui Pena & Arnaut

In an ideal perspective, renewable energy should fall within the free market, benefiting from the fact that it is a clean energy, totally free of, or with lower carbon emissions, which presupposed, if the CO₂ market were an active market as expected in the late 90s, enough carbon credits to offset the extra costs of the initial investment.

Plainly speaking, the carbon market crashed in Europe and the world, if it ever did work with a minimum of consistency. Due mainly to the generous emission licensing policies of different nations, and the known lack of understanding among richer countries regarding reduction of their emissions to reduce global warming, prices in this specific market fell sharply to under € 5.00/t, too insufficient to allow RES to compete with non-renewable energy sources.

A resource solution, already in place in some European countries, is the creation of an environmental tax inciding only on non-renewable sources, enabling production costs to be trimmed in comparison with renewable energy sources, but which still carries the inconvenience of being an alien factor in liberalisation of the sector and does not observe cost diversity within the scope of renewable energy sources themselves.

For many years, the way forward identified in Portugal ¹ was to set a specific tariff system for this type of production based on avoided power and environmental costs, dependent

¹ It was Decree-Law (DL) 189/88, of 27 May, which set feed-in tariffs to the so-called "special production regime" (PRE), integrating hydroelectric plants with up to 10 MVA of installed power and electrical energy production from other renewable sources, cogeneration units and production from waste, subsequently extended to micro and low-voltage production.

on the technology used and intended to guarantee a specific return on investments. This was the means used for the exceptional increase in wind energy and, more recently, in photovoltaic solar energy.

The difficulty in calculating such profitability, greater efficiency of different technologies, combined with low costs of the respective infrastructures and, above all, the extra costs generated by the system in a climate of widespread restraint and economic difficulty, which prevented the energy end-price TO increase for businesses and families, caused the tariff deficit to soar and forced not only a review of these rates but also the establishment of restrictions on the licensing of new ventures.

There is a need, therefore, to reform the system and define a new tariff model, perhaps inspired by the reform carried out in the United Kingdom in 2011², which has earned widespread praise from experts, and which remunerates RES electricity producers on more balanced and, at the same time, more flexible terms for consumers in the pool, albeit more complicated, through two types of financial instruments: on the one hand, contracts for difference³, in the long term, ensuring a certain profitability based on an appropriate reference price for the cost of their investment and, on the other hand, capacity reservation agreements, in the respective market, ensuring the availability of electricity where necessary to balance the intermittent nature of renewable sources.

These two financial instruments are supported in turn by a fixed minimum price for carbon, sustained by a rate and a maximum level of CO₂ emissions per kWh, to limit emissions from power plants using fossil fuels.

Sérvulo & Associados

In the context of the shaping of the European internal market, the granting of state aids (including those which seek to achieve the Union's goals on environmental or energy related issues) is subject to prior examination as to its compatibility with the European integration process. One of the requirements to be met is the demonstration that state intervention is necessary in order to correct a market failure, that is, a failure that neither the market, nor other policies and measures (e.g. in matters such as sectorial regulation, greenhouse gas emissions allowance trading or carbon taxation) can remedy.

Once it is demonstrated that such intervention is necessary in order to promote the production of renewable energy (e.g. due to the persistent lack of market openness, and/or

² Electricity Market Reform (EMR) of 12 July, 2011.

³ Contracts for difference (CfD), whose principles in simplistic terms are as follows: (i) RES producers are guaranteed electricity supply to the market for 15 years with a determined reference price; (ii) if the price of electricity on the market is less than the fixed reference price, the producer receives the difference by way of public incentive; (iii) if the price of electricity on the market is above the reference price, the producer returns the difference.

to flaws in the internalisation of conventional production costs or in the development of the relevant technology), the choice and shape of the different support schemes depend on an assessment of its adequacy, its necessity and its possible effects on competition and trade between Member States.

The assessment of the support schemes for the electric sector must however face a perhaps earlier question, which has to do with the first dimension of the so-called *World Energy Trilemma*: that of the security of supply being a purpose which requires keeping and/or building power plants with the ability to address different consumer needs.

In light of this dimension, the renewable energy power stations pose and face serious technical and operational constraints, regardless of support schemes and privileges granted within the technical operation of the electric system. Most of those constraints have to do with the temporal variability of the renewable energy sources, and the low predictability of its power generating patterns. Wind sources are usually stressed as a major example of variable renewable energy sources, but the fact is that other renewable sources (such as solar energy, biomass and biogas) are also variable, though more predictable.

So, for the variability linked to the production patterns of renewables to be included in the country's electric system, it is not only necessary to introduce stabilizing elements into the system, but also to make it more flexible, thus allowing it to respond, safely and swiftly, to major fluctuations in supply and demand. This requires the implementation of infrastructural planning measures, such as the installation of power system stabilizers, the development of energy storage systems, the structural adjustment of the conventional power stations and the management of grid load. It also requires the planning of renewable energy sources, through the assessment of such sources' potential, the development of forecasting models for intermittent renewable energy sources, and investment in those sources that allow for a better integration with other renewable sources, and ensure the security of network operation.

Uría Menéndez – Proença de Carvalho

As mentioned in the answer to the first question, the use of feed-in tariffs, guaranteed grid injection capacity and the stability of the respective legal regimes have played a central role in the proliferation of renewable power plants in the last decade.

The reasoning inherent to the recourse to feed-in tariffs as an incentive to the injection of renewable energy in the grid is mostly linked to three elements typical of renewable energy: (i) intensive capital investment, (ii) high cost of technology, (iii) interrupted power injection. In short, renewable power plants demand a very high initial investment from sponsors, whilst they do not allow to anticipate exactly the amount of energy to be produced at a given

moment. In addition, one has also to consider that the tariffs applicable at pool prices would not be profitable.

This said, the elimination of feed-in tariffs (even if only for future projects) would surely deem the renewable's investment cycle to come to an end.

Notwithstanding, it is well known that the costs of technology in the renewable energy sector are dropping, particularly in solar pv and wind, driven by the influence of new products coming in from the Asian market, which should facilitate a decrease in the value of the feed-in tariffs whilst keeping investment in renewable energy attractive.

In fact, if we look at the Government's aim at eliminating the tariff deficit by 2022 and the expected deficit for 2015 (€ 5,000,000,000.00), as well as to the goals of reduction of energy dependence and CO2 emissions, reconciling such objectives may only very well be possible with the installation of additional renewable facilities benefiting from a remuneration €/MWh substantially lower than the current average.

As such, it is legitimate to assume that the way forward should be to maintain but reduce feed-in tariffs, together with other investment incentives - which can be fostered under the European Commission Investment Plan for Europe - and, in the long run, through disincentives to the use of fossil fuels via carbon taxation once the investment and construction of renewable facilities becomes appealing at a pool price market.

Vieira de Almeida

As with the mix of energies advisable to ensure security and quality of supply, renewable energies should also be supported by a mix of tools that maximizes the different levels of maturity of each technology, the investment period required to ensure an adequate return to the necessary balance of interests of the several stakeholders and local and/or circumstantial constraints.

It goes without saying that a country's path in terms of energy policy is always subject to major options (the "eternal debate" about nuclear energy); however this should not extend to the tools to support the energy policy, since they are but the means to implement the energy policy. Being provocative, the question itself seems to point to the need for a choice in abstract of certain tools.

However, looking to other countries, there are clear examples of good and bad practices alike with regard to any of the tools to support renewable energies.

As a rule, it is the design of those tools and their practical application to the projects to be implemented that dictates their success or failure, not the concept *per se*.

If we look at feed-in tariffs, which unfortunately have been by and large handled as "excessive rents" (mainly due to the measures imposed by the Troika memorandum), they could be a real driving force for economic growth, without (when properly designed) being

unnecessarily burdensome on the consumer.

But there is still much work to be done in this area, since the “right dose” of support depends on the abovementioned “re-design” of the electricity market, which, as is common knowledge, was not yet truly undertaken with the depth and seriousness it warrants..

EnerXXI – Think Tank de Energia

In western countries it has been accepted that large scale electricity generation through renewable energy sources (RES) is only possible with the financial support of governments. As **Cuatrecasas, Gonçalves Pereira** points out, “*the creation of renewable energy production infrastructures usually involves high levels of investment, which will be extremely difficult to remunerate from their regular exploration in a purely competitive environment*”.

In Portugal, the first remuneration framework for RES electricity generation dates from 1999 with the publication of Decree-Law no. 168/99 of 18 May 1999. The subsidizing of this kind of electricity generation, according to the preamble of the aforementioned legal document, was motivated by the need to anticipate the internal electricity market and the “growing concerns about the environment protection” in this sector – already addressed by the United Nations Framework Convention on Climate Change and the subsequent Kyoto Protocol. The Decree-Law even precedes the EU first legislative initiative in this area which was Directive 2001/77/CE.

Decree-Law no. 168/99 (Annex II) introduces monthly remuneration formulas for renewable plants, defining feed-in tariffs that are essentially those that are used today to plants licensed prior to February 2013⁴. Although they are a bit complex, we are going to analyse their nature and implications but avoiding its details.

The monthly remuneration consists on the sum of three main formulas – a fixed remuneration parcel, a variable remuneration parcel and an environmental dependent parcel – all of them indexed to inflation, a modulating factor that allocates higher weight to the remuneration of peak generation and a loss factor that acknowledges avoided energy losses brought by the operation of these facilities. In short, considering a generic power plant we have:

$$\text{Remuneration} = \text{Main Parcels} \times \text{Hourly Modulation} \times \text{Inflation} \times \text{Avoided Losses Factor}$$

Looking at the 3 last factors of the formula above we can say it obeys to economic rationality principles. The hourly modulation parcel assumes higher valuations in periods when electricity is more scarce and its market value is higher. Inflation consists on the evolution of Portuguese CPI since the start of the plant's operation until the desired month. As for the avoided losses factor, its application allows to reward generators that, theoretically, induce less losses in the transmission and distribution grids. Of these 3 parameters, the modulating factor and avoided losses factor are set by the legislator. The first has been amended once

4 Gomes, Franco, Calado (2014), “*Energias renováveis em Portugal: Evolução e perspectivas*” pg. 23

(Decreto-Lei nº229-C/2001 de 29 de Dezembro) to introduce definition of hydro-specific parameters. This change was motivated by the fact that hydro plants have the capacity to decide at which hours they can operate and manage the generation across different hourly periods. At that time this negative discrimination made sense since the main RES that competed with hydro (wind, solar and geothermal) were producing much less than today. Nowadays its hard to justify this discrimination since hydro represents less than 10% of wind, solar and geothermal combined generation⁵.

Let's analyse the Main Parcels and the rationale behind them. The first main parcel is a Fixed Remuneration Parcel and is designed to recover capital costs. Its simplified formulation is:

$$\text{Fixed Remuneration Parcel} = \text{Unit Cost} \times \text{Efficiency} \times \text{Average Power Generation}$$

Unit Cost comprises a fixed reference value set by the regulator intended to reflect the capital cost avoided by installing a RES plant instead of an ordinary non-renewable plant. This value is independent from the inherent renewable technology and expressed in terms of EUR/generated power so the remuneration is proportional to the contribution provided by the generator to the reliability of supply. This contribution is revealed by the two remaining factors.

Efficiency is a monthly measure for the proportion of generated energy compared to its maximum potential. This potential, expressed as an average power generation capacity, is declared by the generator when applying for a license. The *Efficiency* parcel incentivizes generators not to declare unrealistic high values for their reference power capacity since it would hurt their remuneration (for having low *Efficiency* levels).

The *Average Power Generation* parcel corresponds to the lowest value between the average power declared by the generator and the effective average power emitted each month. In this way there is an incentive for the generator not to declare unrealistic low values for the reference power capacity, and remuneration is maximized if the generator is able to replicate rectangular load diagram equal to the declared average power. If all agents could achieve this generating profile they would then replicate the conventional thermal generation (base) load profile – which, in the Portuguese case, is a role currently played by the more pollutant coal generators. Summarizing, the *Fixed Remuneration Parcel*, although not being really fixed, incentivizes the system optimization in environmental and economic terms.

The *Variable Parcel* is designed to cover variable costs and consists in multiplying a fixed energy price by the amount of produced energy. Once more, the price is set by the regulator and is meant to replicate the avoided cost (non-renewable fuel consumption) by not having to generate that same energy using non-renewable power plants. This parcel incentivizes generators to produce as much as they can. An evaluation of the impact that this price has on the economy must also take into account imports substitution and other avoided costs by the fact that this energy isn't generated by fossil fuels.

5 See "Estatísticas e Preços" in www.dgeg.pt

The *Environmental Parcel* consists of:

$$\text{Environmental Parcel} = \text{CO}_2 \text{ Unit cost} \times \text{Specific Emissions} \times \text{Produced Energy} \times Z$$

Both the *CO₂ Unit Cost* and the *Specific Emissions* are set by the legislator. The *Z* factor "incorporates the specific characteristics of each endogenous resource and the employed technology", and is defined by the regulator in order to differentiate between each renewable technology and their installed capacities. Once again, the generator is incentivized to produce as much as he can and the investors to promote projects that benefit from greater *Z* factors. There is a cost imposed to the system that is proportional to the valuation, made by the legislator, of avoided emissions.

After analysing these different components, the conclusion is that it is only on the formulae parameters – valuation of fixed and variable unit costs, *CO₂*, etc... - that we can find some weak points since the design of the remuneration framework seems to be able to provide the right incentives and economic rationality.

Theoretical Economics supports RES subsidies in some situations as follows:

- when the internalization of economic benefits is difficult or impossible to monetise such as the environmental benefits;
- when RES are incapable to compete economically with more mature technologies without some support;
- when the perceived risk associated with investments in innovative technologies is significantly higher than the investment in classical technologies;

Recent surveys⁶ found evidence that the investment costs, per installed MW, in non-dispatchable RES power plant technologies – such as wind, hydro, photovoltaic and thermal solar – is much higher compared to conventional technologies⁷. In a competitive environment, as variable direct costs are null, the market price received is aimed entirely to remunerate the capital investment.

It is not clear if, initially, the Government's motivation for subsidizing renewable generation was fearing that market prices were insufficient to cover investment costs. However, after analysing the feed-in tariff implemented in Portugal, it becomes more clear that the main motivation may have been to reduce the perceived investment risk leaving to the investor solely the risk associated with the generated electricity volumes and timing. As stated by **Garrigues Portugal**, the implemented investment subsidization model intended to ensure "a guaranteed return to the promoter [...] and hence significantly reducing the commercial risk". In order to limit the cost of subsidies to the system, i.e. to the consumers, the legislator defined limitations to the number of years that a RES generator can benefit from feed-in tariffs (12 to 25 years, depending on the technology, in the most recent regime) and the amount of generated energy that benefits from it in each year, also differentiated by technology.

⁶ Pérez-Arriaga et al. (2013), "Regulation of the power sector", Springer, pg. 56

⁷ Only CCS (coal plants with capture and storage of carbon emissions) or latest generation nuclear plants reach similar capital costs.

As for the parameters defined by the legislator, no studies or data were presented to justify the fixed parameters. The discussion of the legislator's options is out of the scope of this paper and so the analysis will be limited to the consequences of the remuneration system.

What other options would the Government have to support RES?

- Direct incentives to investment
- Influence market prices by imposing a cost to CO₂ emissions and other pollutants.

Nowadays, there are only direct incentives to investments in big hydro plants that sell or are destined to sell their output at market prices not benefiting from any other public support to the investment. This direct incentive was established by Order no. 251/2012 but aims to grant the electric system flexibility and resilience in a context of strong renewable penetration (inducing more volatility in the daily operation). **Abreu Advogados** states that "*this regime was set to ensure that there is always energy available in the National Electric System*" and it is articulated in order to be coherent with other security of supply incentives laid down by this law.

As for the imposition of CO₂ costs to conventional thermal generation, this can be carried out through a levy charged proportionally to the emissions or through a permit system – that can be traded in open markets – where the generators must buy those permits in order to emit CO₂.

In **CMS Pena & Arnaut's** perspective, it would be desirable to integrate RES in "*the free market, benefiting from the fact that it is a clean energy [...], which presupposed, if the CO₂ market were an active market as expected in the late 90s, enough carbon credits to offset the extra costs of the initial investment.*" According to this firm, the lack of coordination between countries with respect to environmental goals and "*to the generous emission licensing policies*" led to a falling in CO₂ prices and the extinction of the intended signal and incentive. **Miranda & Associados** refers that "*despite the ambitious goals set by the PNAER and the EC guidelines, new investment in renewable sources has been scarce. Indeed, oversupply has refrained investment attempts in such sources, particularly considering that a significant number of producers have already invested under the guaranteed feed-in tariff regime*". On the other hand, **Morais Leitão, Galvão Teles, Soares da Silva e Associados** raise some questions about the effectiveness of a free market conditioned by a carbon tax since, in their view, "*the effects of this type of support are yet little known*". **PLMJ** has a less favourable perspective as they consider that this model, if implemented in isolation, will hardly succeed since the setting of a carbon price is "*uncertain and depend on how governments allocate the credits*" and that becomes a sensitive issue since "*any mechanism inducing an increase in carbon cost clearly deters*" the development of carbon intensive industries and risks "*burdening poorer groups unnecessarily, especially if there are no viable alternatives to choose from*".

In the current context of absence of a valid market valuation for CO₂ or any other pollutant there's the need for an objective referential to value CO₂ provided it is not discretionary nor disconnected from reality - excessively penalizing consumers or being ineffective in achieving environmental goals. In 2009, the United Kingdom's Department of Energy &

Climate Change adopted a new methodology for valuation of CO₂⁸ that consists of the combination of an international price of CO₂ allowances and an assessment of emission mitigation costs taken as reference in establishing energy and environmental policy measures. The aim of this approach is to make the valuation of CO₂ as objective as possible using the European environmental targets by reference. Being a "hot" topic subject to ongoing development, it is desirable that, at an European level - and even globally - nations are able to reach a consensus in terms of emission's valuation methodologies hoping to reach a balanced solution and avoiding regional imbalances resulting from excessive heterogeneity in the valuation of emissions.

The subsidization strategy through direct support of investment in RES power plants has never been an option that had expression in Portugal. Therefore, it is a common feeling that it will not be a relevant strategy in the near future. As regards **Morais Leitão, Galvão Teles, Soares da Silva e Associados**, despite being, in abstract terms, *"effective in promoting investment on renewable energy generation"*, given *"the economic and financial status of the country, this type of support may not be the most appropriate"*. **PLMJ** is also of the opinion that this may *"become unsustainable for governments if there is no financial return or effective independent market creation"*.

It seems consensual that the subsidization of renewable energy through feed-in tariffs applied in Portugal resulted in excessive costs for electricity consumers. The extra costs associated with the special regime, allocated in 2015 electricity tariffs, represents about 25% of the average final price. As pointed out by **CSM, Rui Pena & Arnaut**, the remuneration of RES resulted in *"exceptional increase in wind energy and, more recently, in photovoltaic solar energy,"* but this happened at the expense of an *"extra costs generated by the system in a climate of widespread restraint and economic difficulty"* which pressured the authorities to contain the rise in price causing *"the tariff deficit to soar"* - about 5000 million Euros according to the most recent estimates - and resulting in *"the establishment of restrictions on the licensing of new ventures"*.

Once the remaining alternatives have not been applied and seem implausible in the future, it can be concluded that the subsidization of renewable energy proportional to their generation will continue to be the dominant paradigm in the coming years. The need to "recalibrate" the current model seems consensual. As **Vieira de Almeida & Associados** states *"looking to other countries, there are clear examples of good and bad practices alike with regard to any of the tools to support renewable energies. As a rule, it is the design of those tools and their practical application to the projects to be implemented that dictates their success or failure, not the concept per se"*. According to **Uria Menéndez-Proença de Carvalho** *"the Government's aim at eliminating the tariff deficit by 2022 and the expected deficit [...] the goals of reduction of energy dependence and CO₂ emissions, reconciling such objectives may only very well be possible with the installation of additional renewable facilities benefiting from a remuneration €/MWh substantially lower than the current average"* considering also that *"the elimination of feed-in tariffs (even if only for future projects) would surely deem the renewable's investment cycle to come to an end"* but also that the

8 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245334/1_200907151_05804_e_carbonvaluationinukpolicyappraisal.pdf

decrease in costs of some technologies (especially wind and photovoltaics) "should facilitate a decrease in the value of the feed-in tariffs whilst keeping investment in renewable energy attractive". **Garrigues Portugal**, argues that, although the subsidization of renewable sources isn't the exclusive source of the tariff deficit, "any decision on the subsidization of renewable energies will always tend to have a financial support proving the respective sustainability, and should always keep in mind the goal of ending the tariff deficit until the announced year of 2022".

There are also proposals to combine the three main ways of promoting renewable sources. **Morais Leitão, Galvão Teles, Soares of Silva & Associados**, for example, argues that the choice of incentive mechanisms should be made "according to those which are best suited for different types of projects and for the social-economic and financial context of each country." **Uria Menéndez-Proença de Carvalho** argues that "the way forward should be to maintain but reduce feed-in tariffs, together with other investment incentives - which can be fostered under the European Commission Investment Plan for Europe - and, in the long run, through disincentives to the use of fossil fuels via carbon taxation" but as long as the market system cannot ensure the economic viability of financial investments. Similarly, **Sérvulo & Associados** argues that "the choice and shape of the different support schemes depend on an assessment of its adequacy, its necessity and its possible effects on competition". Another option in order to achieve a more natural integration of subsidized generators in the free market would be the introduction of a market premium that, as suggested by **Morais Leitão, Galvão Teles, Soares da Silva & Associados**, is an "amount, fixed or variable, which accrues to the price by which generators sell their power in the market." This option would bring an incentive to producers to put the maximum available power and benefit the solutions to manage the issue of energy at times when it presents higher prices. The same law firm notes that this system, although similar to feed-in tariffs, "differentiates [...] by forcing generators to put their power in the market and be subject to the risk arising from it, therefore being a support mechanism more suited for mature technologies". There are also more innovative ideas resulting from the evolution of mechanisms already known. It is the example of the remuneration system, referred to by the **CSM, Rui Pena & Arnaut**, "inspired by the reform carried out in the United Kingdom in 2011 [...] and which remunerates RES electricity producers on more balanced and, at the same time, more flexible terms for consumers in the pool [...] through two types of financial instruments: on the one hand, contracts for difference, in the long term, ensuring a certain profitability based on an appropriate reference price for the cost of their investment and, on the other hand, capacity reservation agreements, in the respective market, ensuring the availability of electricity where necessary to balance the intermittent nature of renewable sources" that will support the implementation of a tax on emissions.



4. Green taxation reform should serve to relieve taxation imposed on other sectors or to increase the overall level of tax revenue? Do the proposals comply with the purpose of ensuring of fiscal neutrality?

Abreu Advogados

The green tax reform endeavored to stimulate the use of alternative forms of energy through the implementation of various fiscal incentives. For example, the reform implemented measures with a direct impact on the taxpayers taxable income, such as:

- (i) The possibility of a 50% cut on the Municipal Tax on Immovable Property tax rate for buildings used exclusively for the production of energy through renewable sources. This benefit is applicable for a period of 5 fiscal years.
- (ii) regarding the Corporate Income Tax, the possibility for companies to deduct as costs the amount of 110% and 140% of the expenses incurred with car-sharing and bike-sharing systems, respectively.

On the other hand, the green tax reform implemented taxation mechanisms applicable to harmful environmental practices, introducing taxation of carbon emissions and a special levy on plastic bags.

All considered, the green tax reform was introduced in the Portuguese legal system as a way of promoting environmental conservation and renewable energy.

These tax measures allowed the use of the tax system as a way of changing behaviors in order to comply with the established environmental politics. Therefore, it is mandatory to conclude that the fiscal neutrality principle, which intends to discourage the use of taxes outside legally approved purposes, is being set aside in order to achieve modifications on specific sectors of the society.

Cuatrecasas e Gonçalves Pereira

The answer to this question is already apparent from what is said above: the motivation of the tax machine is essentially tax revenue collection, and almost all available instruments to achieve this purpose will be lawful – and if they are lawful, why not use them?

The strength of the theoretical justification of green taxation is, in our view, indisputable, in the same way as, in abstract, we understand that progressive taxes are socially fair and just. And so, if we can divert the revenue generating pressure from sectors that could benefit from a tax relief, all the better. That's not the point. The point is that the State has consistently evidenced to be unable to moderate its need of additional revenue.

Green taxation does present an almost unmatched capacity to reconcile two distinct objectives: burdening certain activities and attitudes that should be penalized taking into account their cost in terms of sustainability and negative externalities, and increase the overall level of tax revenue. But where the public is sensitive to the first argument, the tax machine will tend to yield to the temptation of assessing greater valuing the second. This was recently seen in the case of the tax that was levied on plastic bags: there was nearly no opposition to the measure, because the environmental justification was easily understood and accepted. And there was in fact a change in consumer behaviour, favouring reusable bags. However, there was also a thinly-disguised unhappiness that the tax did not produce the revenue that was expected.

Unfortunately, past experience leads us to be somewhat skeptical in what concerns the belief that green taxation systems may be given a fiscal neutrality objective – although such an objective would be unquestionably worthwhile. It may be more realistic to think that in the end we will reach an intermediate situation – the proclamation of a neutrality intent, with the acceptance, as inevitable, of a moderate revenue increase.

Garrigues

In theory, the green taxes should be used to manage behaviors, penalizing harmful behaviors and contributing to sustainability and to the efficient use of resources.

Several studies have shown that the creation of new tax burden without the consideration of the principle of neutrality would have significant effects on GDP and public debt, by which the reform of green taxes should not serve to increase the level of overall tax revenue.

A different question is whether this might not be the result.

For the year of 2015 and in line with the desired neutrality, the government chose to allocate most of the revenues from the green taxation to the financing of the PIT reform.

There have been many critics on how the desired tax neutrality was conceived. On the one hand, because the determined fiscal neutrality [to finance the reduction of IRS (per-

sonal income tax). IRC (corporate tax) and TSU (single social tax)] is only guaranteed for the year of 2015, being difficult to ensure in the future. Being ensured the neutrality through the allocation of revenue to other non-environmental taxes it will always be difficult to assess if the neutrality is effectively achieved.

On the other hand, the tax revenue will always depend on how contributors behave, since the revenue from the measures included in the so called green taxation will tend to reduce with the adaptation of consumers to new taxes and green taxes.

In contrast, if the carbon market value (currently with an extremely low value) increases, there will be naturally more tax revenue which could be used either to reduce the IRS or other measures tending to tax neutrality.

Severely criticized was also the lack of boost measures of technological restructuring of companies within this reform of green taxation.

At first, it is clear that the green tax will mean an increase in taxes paid by taxpayers, including the impact of the carbon tax on fuel prices, although it must be stressed that the impact on fuel prices is not, after all, so significant.

The net result of the intended neutrality only in the future may be verified, but we believe that additional measures for the redistribution of revenue by the economy of green taxation will still be taken in the coming years, probably within the environmental taxation. We are thinking particularly in new tax incentives, leading to the adoption of behaviors less polluting and in energy efficiency measures (extension of incentives for the withdrawal of vehicles to other solutions that not only the purchase of electric vehicles, tax credits for the modernization of vehicle fleet companies, etc.).

Miranda & Associados

In our view, it is still too early to tell, as the financial year is still ongoing. Based on the most recent budget implementation documents presented (which refer to August 2015), there has been a general increase in fiscal revenue, arising mainly from economic growth and action against fraud and tax evasion. The neutrality conclusion (or absence thereof) of the environmental taxation reform can only be drawn on the basis of a more detailed review of budget implementation.

Having said this, the reasoning underlying the environmental taxation reform is clearly to shift the tax burden in accordance to a generally neutral environmental criterion. This was the mission of the Commission for the Environmental Taxation Reform. The limited scope of measures adopted appears to suggest that this concern was an effective presence in the Commission's works.

On this basis, there are a significant number of cases in which tax increases correspond to relief measures. The most striking example of this dynamic is the taxation of the automobile industry: on the one hand, an increase in the ISV was established for polluting vehicles; on

the other hand, a number of tax incentives were simultaneously set forth for less polluting cars (e.g., plug-in hybrids, GPL and natural gas).

There are also three additional aspects to bear in mind: (i) the Portuguese tax reality; (ii) the country's economic situation and (iii) the recessive feature of environmental taxation revenues:

First, the Portuguese tax reality contains a significant number of restrictions to the carrying out of neutral tax reforms. Indeed, income taxes (either corporate – IRC – or individual – IRS) are supported by a tiny minority: in 2012, 2% of companies accounted for 68% of net Corporate Income Tax collection, while 70% of companies only represented 7% of collection. The difference is likewise striking as regards Personal Income Tax: 58% of net PIT collection was supported by a mere 5,4% of taxpayers, while 66% of taxpayers declare annual taxable income amounting to less than EUR 10,000 (thus only representing 4% of net PIT collection). Contributive capacity is irrelevant for the purposes of environmental taxation, pursuant to both the equivalence and the polluter-pays principles. This means that its taxable base is wide-ranging in scope, thus also applying to those with lower contributive capacity. Taxpayers with lower capacity will indeed find it more difficult to convert and implement cleaner technologies, considering that such conversion entails a certain amount of investment. For this reason, the environmental taxation reform has been said to have regressive effects, even if it globally proves to be neutral (i.e., even if the total taxation revenue of the country is maintained, distribution among social groups may be regressive). This is also why it is difficult to engage in a tax shift, which would decrease the tax burden applicable to labor and production.

One alternative which could have been envisaged consists in neutralizing the regressive impact of environmental taxation through the promotion of support plans for micro, small and medium sized companies with a view to helping environmental conversion. However, the carrying out of public expenses is now heavily monitored due to the country's economic situation and EC legislation on State aids.

On a final note, it should be noted that environmental taxation policies are self-destructive: when successful, their own taxable basis is eroded through a decrease in unwanted environmental behaviors.

Morais Leitão, Galvão Teles, Soares da Silva & Associados

The Green Tax Reform was implemented in a context of fiscal neutrality, and should keep unchanged the “global tax burden” and is guided by the principle of diversification of revenue sources reflecting the trend of relieving taxation in other sectors.

In its initial project, the Commission created to develop the Green Tax Reform acknowledged the importance of the fiscal neutrality of the reform, considering it as a key factor for the legitimation and implementation of the proposed (and now, enacted) reform and trying to avoid the creation of tax expense.

Additionally, in a context of economic crisis, only the perspective of reducing the tax burden associated to other fields of taxation granted the social acceptance of the increase of taxation, even though it was circumscribed to green taxes.

Nevertheless, since the Reform entered into force in January 2015, there is not yet any official data with information that allows us to assess that fiscal neutrality was effectively achieved.

A permanent observation of the evolution of the effects of the Green Tax Reform is expected to be performed, evaluating its evolution. Only then it will be possible to conclude if the objective of relief of other fields of taxation has been achieved, compensating the increase of green taxes.

PLMJ Sociedade de Advogados

The main objectives of the reform of green taxation were to achieve environmental, economic and budgetary benefits, by increasing net tax revenue. The “green objective” was linked to relieving the burden of other taxes, including personal income tax.

In a first moment, the reform of green taxation shall serve for the State to establish the bases for implementing a green economy and not to resolve pre-existing taxation disparities, which should be dealt with at the level of an integrated overall tax reform.

In fact, given the country's current situation, and even taking into account the expectations for growth over the coming economic cycles, we consider that a green taxes reform that imposes a significant increase in the overall tax burden would difficultly be well received. This is because of the effects it would have on wealth and job creation. The reform of green taxes should, therefore, seek to achieve the well-known triple dividend: improved environmental performance, contribution to alleviate the excess burden of the tax system thus assisting in the achievement of economic growth and promoting the reduction of unemployment rates.

Despite the increase in the overall level of the tax burden we have witnessed in recent years as a result of the economic, financial and political situation we are in, there has been a growing trend towards awareness and environmental protection, seeking to correct the regressive nature of green taxation.

It is noteworthy to mention that, according to the report of the European Environment Agency of April 2013¹, the comparative share of green taxation in Portugal fell between 1990 and 2013. Based on this, the report supports the idea that tax neutrality can occur by way of an increase in the tax base and that it is possible, at least partially, to do this as an alternative to increasing the taxes that already exist.

¹ *Environmental fiscal reform: illustrative potential in Portugal - based on established practices across Europe*, available at: http://www.apambiente.pt/_zdata/DESTAQUES/2013/FiscalidadeVerde/final_Briefing%20Note%20for%20ETR%20Workshop%20Lisbon_finaldraft_rev.pdf

When it comes to this year, 2015, neutrality in the tax burden is expected to be achieved, at least in respect of personal income tax because the choice made in the budget was to focus exclusively on the assignment of tax to the reduction of personal income tax (reducing the family quotient), increasing the carbon tax, introducing a levy on light plastic bags and reviewing the waste management tax, among others. This tax neutrality is to be achieved by restructuring the tax revenue and recycling the new revenue, which should currently result in an economic impact estimated to be zero or negative.

In any event, attaining the objectives of tax neutrality and progressiveness in green taxation reform policies will also depend on the behaviour of social and economic indicators, i.e., through growth in revenue being in line with growth in GDP.

CMS Rui Pena & Arnaut

In my opinion, the answer to both questions has to be no, regardless of the meaning one applies to the concept of "fiscal neutrality".

As its name indicates, the green tax aims to correct or encourage behaviour of citizens and businesses in relation to their effects, whether negative or positive, on the ecosystem, namely providing incentive for patterns of production and more sustainable consumption, and promoting a low-carbon economy. In this sense, with the aim of bringing about a paradigm shift, it is not, nor should it be, neutral, but must engage with and redirect the decisions of economic agents in defence of the environment.

However, in terms of tax bases, it should be neutral, not serving to transfer revenue between different taxes or to other sectors, whether to relieve the respective taxation, or to increase it. Nevertheless, we recognise that some voices insist in being heard, particularly in the EU in defence of what they call "double dividend", promoting environmental improvement on the one hand - discouraging pollution and over-exploitation of resources - and, simultaneously, reducing the burden of distorting taxation on activity that should be encouraged such as work, savings and investment.

This seems also to be a view that stems from the Green Tax Reform², which was estimated to generate a revenue of € 165.5 million, in which only € 17.5 million - just over 10 % - will be allocated to environmental goals, with the remainder being applied in Inland Revenue relief for families. Despite this relief being praiseworthy, the truth is that it should not be affected largely with the proceeds of this tax. To that end, this reform is irregular in its implementation, not only due to an exaggerated shift regarding the destination of revenue to be obtained, but also a real subversion of its principles and objectives.

Frankly, I expected much more, both in the sense of sanctioning and penalisation of environmentally harmful behaviours by those who pollute and degrade, whether in stimulating and encouraging innovation and investment to correct and minimise the aggressions in which our country has been active, from north to south, not only in the domain of pollutant

2 Approved by Law 82-D/2014, of 31 December.

emissions, namely GG³, but also against the landscape itself, the preservation of natural resources and heritage, and maintenance of biodiversity. The people who joined the commission charged with the task of preparing it had, at the outset, all the conditions for doing an excellent job, but did not count on the budgetary needs which, at the end, distorted a significant part of its effort.

I called it, as a joke, the "the plastic shopping bag reform" for being the most popular measure on social communication networks, superimposing itself on the others. But among these, it is fair to highlight the tax increases for the most polluting vehicles and incentives for those which pollute less, especially when powered by electricity, measures that promote public transport, favouring the rehabilitation of urban buildings and the benefits granted to the forestry industry.

However, we cannot omit the fact that relevant issues, lacking the means to be implemented, such as the aforementioned promotion of efficient use of our resources or conversion of businesses, making them more open to innovation, more up-to-date and competitive, or research and development of new environmentally-friendly technologies in our competence centres, not to mention land reorganisation and the rehabilitation of cities, which could obtain the necessary financing through correct redistribution of revenue from this reform, were forgotten or, once again, postponed.

Sérvulo & Associados

The Green Tax reform's declared purpose was to "contribute to eco innovation, to efficiency in the use of resources, to reduce external energy dependency, and to induce more sustainable consumption and production patterns, as well as to foster entrepreneurship and job creation, the concretization of international goals and targets, and to diversify revenue sources, in a context of fiscal neutrality and economic competitiveness". Thus, coupled with such initiative is the political agenda set by the Portuguese government in «Green Growth» matters, a strategy seeking to enhance interaction between economy and environment by fostering conditions for economic growth that are compatible with the lesser use of natural resources, and the enhancement of the quality of people's lives.

Because the idea of the Green Tax reform (as a trigger for Green Growth) is for economic growth and environmental preservation to be mutually reinforcing, the additional tax revenue coming from the pursuit of the second goal (environmental preservation), if simultaneously focusing on the first goal (green growth), should hardly serve to increase the global tax revenue. On the contrary, said additional revenue should, in principle, allow for a reduction of the tax burden on personal and corporate income. This would be so, either with the pur-

3 Greenhouse gases.

pose of mitigating the negative effects of the new green tax measures on matters such as social fairness or economic competitiveness, or with a view to increasing employment and wages, and fostering entrepreneurship and investment in the domestic productive fabric, particularly in innovation and development projects, which are worth exploring both from environmental and economical standpoints (e.g. energy efficiency measures).

This aspiration can be found in the Green Tax reform framework documents, which clearly state that green taxation revenue sources should be allocated in accordance with the principle of fiscal neutrality, thereby making it possible to reduce the tax burden or to extend certain tax benefits. The revenue allocation set for the year 2015 has been raising some discussion, since it will almost entirely be applied to the funding of a measure granting relief from personal income tax. Such a measure is part of an income tax reform which was put in place that same year, and which will introduce an income splitting system (a mechanism benefiting large households, and generally said to be a way of increasing the birth rate). However, taking into account the economical and environmental impact of the measures, as well as the evolution of tax revenues raised as a result of the Green Tax reform, it is hoped that, as intended, in the following years the allocation of such revenues may allow for the funding of other tax relief measures - including measures regarding corporate income tax, and even measures for the extension of tax benefits to environmentally or economically relevant projects, under (and in accordance with) the principle of tax neutrality.

Uría Menéndez – Proença de Carvalho

The green tax reform enacted by Law nr. 82-D/2014, of 31 December, has based itself upon a triple dividend principle, i.e., it is aimed at three indirect goals to be achieved through the increase of net fiscal revenue arising from green taxation, which are: (i) the protection of environment and reduction of foreign dependence on energy, (ii) the fostering of growth and employment, (iii) contributing to fiscal responsibility and to the decrease of external imbalances.

Regardless of the merits of the measures adopted by the Government towards the protection of environment, the incompatibility in a scenario of economic distress between tax increasing measures and the triple dividend aims without any measures being adopted to balance the tax increase seems evident. In fact, a reform merely targeting an increase on net tax revenues impacting taxpayers will hardly foster any growth or employment or contribute to the decrease of external imbalances. In line with this reasoning, it is made clear that our opinion is that the green tax reform should not serve to solely increase the tax revenues.

Taking a view at its sustainability the reform was development under the tax neutrality principle, which means that the reform's impact in the State budget and, in turn, in the real economy should be set-off with the downwards review of other fiscal charges.

On the one hand, Law nr. 82-D/2014, of 31 December, introduced incentives on investment and development of eco-friendly activities, such as the reduction of 50% reduction in the real estate municipal tax for properties used by renewable energy power plants, the increase in the deductability in the income and corporate tax of costs incurred with car sharing and bike sharing systems and incentives to the change of old aged cars for hybrids or electric cars and, on the other hand, the net revenue of € 150,000,000.00 was allocated in full to the funding of relief of the income tax for 2015 through the family coefficient.

It is precisely this net revenue allocation that is aimed at fulfilling the tax neutrality goal. Whilst such goal seems achievable in 2015, there are few or no guarantees that these compensation mechanisms will be kept in future State Budget laws, given the absence of a link between these measures and the tax revenue which is financing it. As a matter of fact, it would be best if the proceeds from the green tax reform were allocated to the fulfilment of its major goals, i.e., intergeneration sustainability, both economic as environmental.

In this sense, it would probably be sensible that the reform's proceeds could be reinvested with a view to such sustainability. It would have been best to see the tax neutrality achieved via the allocation of tax revenues to the renewal of Portugal's industry, either by means of State owned investment vehicles or an overarching tax benefits scheme, the encouragement of less polluting new technologies, in alternative energy sources or cogeneration.

In this way the measures penalizing polluting activities would walk hand-in-hand with the necessary incentives to the repositioning of the Portuguese business sector. We believe that in the medium-long run a tax neutrality strategy directed to the business sector would place Portugal closer to reclaiming the triple dividend. If this is not the case, and should the tax neutrality objectives not be achieved, Portugal will risk seeing the projections of the Commission for the Green Tax Reform materialize, which estimate a 0,15% increase of unemployment, a 0,34% decreased in GDP and an increase of 0,78% of the public debt/GDP ratio in 2030 in case the measures introduced by the reform are not accompanied by an effective "recycling" of its proceeds in the economy.

Vieira de Almeida

This question seems to assume that there is a fiscal goal behind the green tax reform, which should never be the purpose of a green tax reform. Indeed it should also be noted that tax neutrality is not in itself a green tax goal. Obviously this question is inseparable from the heavy fiscal burden Portugal has experienced in recent years; hence the concern with tax neutrality.

However, green tax should be seen by society as just one of several tools available to commit to green growth, nothing more; otherwise, we could be considering, to the detriment of others, an instrument which increases, or at the very least does not decrease, the tax burden – with all the negative repercussions this may have on the country's economic growth.

In this regard, green tax should not aim to shift the burden of taxation from other areas or to increase the level of global tax revenue. But it can, and indeed must, be used to encourage a clear and sustained change in the general behaviour (of both public and private entities), to move towards a green economy and to commit to investments that are innovative and a catalyst to a paradigm shift (which at the end of the day will also contribute towards greater energy efficiency).

Seen in that light, the green tax reform fails at least to have been duly perceived by taxpayers as the driving force for a more innovative and sustained development. If in addition to this lack of perception, green tax reform does not result in green growth in the short run, it will also have failed to produce results.

But, in conceptual terms, it is undoubtedly a step in the right direction for a more modern economy and sustained growth. And in legal terms, it naturally contributes towards the increased need for conceptual and legal analysis evolution to treat these new realities. Indeed, green growth cannot be built without taking into consideration legal aspects and new legislative and contractual realities must be considered and brought in line with this new economy.

EnerXXI – Think Tank de Energia

The so-called "Green Taxation Reform" started with the publication of Order No. 1962/2014 of the Ministries of Finance and Environment, Spatial Planning and Energy.

According to said Order, the Government decided to review the energy and environment taxation in a way that should "(...) *contribute to eco-innovation, to efficiency on the use of resources, to reduce external energy dependency and to induce more sustainable consumption and production patterns, as well as to foster entrepreneurship and job creation, the concretization of international goals and targets and to diversify revenue sources, in a context of fiscal neutrality and economic competitiveness.*"(Emphasis added).

In terms of measures, we believe it is worth highlighting the tax incentive to end-of-life vehicle renovation (vehicles with more than 10 years and the amount of the incentive depends on the type of vehicle to be bought), the reduction of depreciation and amortization rates of solar equipment and vehicles, the tax on lightweight plastic bags (about €0.10), the reduction of Real Estate Municipal Tax over buildings considered to be "efficient" and the imposition of a carbon tax on fuels.

These measures, according to the Green Taxation Reform Commission, were implemented in order to operate a "paradigm shift" that could achieve the so-called "triple dividend" (i) protecting the environment and reducing energy dependency, (ii) foster growth and jobs and (iii) contribute to budgetary responsibility and to reduce external imbalances (the fundamental objective of this reform).

Before debating its success, it is important to understand what "fiscal neutrality" really means.

The term "fiscal neutrality" means, in rough terms, that the tax system should not be a deciding factor to the different economic agents when taking decisions. In other words, decisions should be taken based on its economic merit and not by any tax reasons.

However, despite the above, it is important to highlight the words of the Minister of Environment, Spatial Planning and Energy, Jorge Moreira da Silva, when stating that:

"The Green Taxation Reform is part of a broader objective of promoting a fiscal policy which is more in line with the goals of employment and growth. The Green Tax Reform has always had an unquestionable assumption: fiscal neutrality. A scenario where we tax more pollution and resource degradation in order to tax less what we earn and what we produce."

We believe it not to be difficult to understand the substantial difference between the classical understanding of what "fiscal neutrality" should mean and how it was perceived by the Minister Jorge Moreira da Silva and by the Green Taxation Reform Commission.

In terms of the Green Taxation Reform, the concept of "fiscal neutrality" was used to justify that if on the one hand the fiscal reform should not have a significant impact on the Portuguese tax system, on the other hand it should serve as a penalty to behaviours considered as "environmentally harmful". In our opinion, the Green Taxation Reform Commission appears to have opted for an understanding not in line with the classical definition of "fiscal neutrality".

We agree with **Abreu Advogados** when stating that *"All considered, the green tax reform was introduced in the Portuguese legal system as a way of promoting environmental conservation and renewable energy."*

These tax measures allowed the use of the tax system as a way of changing behaviours in order to comply with the established environmental politics. Therefore, it is mandatory to conclude that the fiscal neutrality principle, which intends to discourage the use of taxes outside legally approved purposes, is being set aside in order to achieve modifications on specific sectors of the society"

Despite not agreeing with the understanding that was given to the expression "fiscal neutrality", it will be interesting to understand whether this supposed "neutrality" is, as mentioned by **Morais Leitão, Galvão Teles, Soares da Silva & Associados**, "actually achieved or not ". Unfortunately, up to this day, there is no statistical data that could allow us to answer this question.

Not being able to assess whether the "tax neutrality" was actually achieved or not does not impair us from discussing the "regressive" nature of said measures.

The Green Taxation Reform focused largely on measures that affect all taxpayers alike (just think of the tax on plastic bags and the carbon tax). This follows from the fact that the "standard" used was the "polluter-payer" principle (*i.e.* polluter pays a predetermined amount based on the "offense" committed). What this means is that the interests of the more disadvantaged or lesser privileged taxpayers were not safeguarded. By not having safeguarded

this situation, we are forced to conclude that this reform is likely to have a "regressive" effect where the more disadvantaged or lesser privileged taxpayers will suffer a greater impact on the taxation applicable to them at the expense of more privileged taxpayers. In this regard, we agree with the view expressed by **Miranda & Associados** when it states that "(...) *Contributive capacity is irrelevant for the purposes of environmental taxation, pursuant to both the equivalence and the polluter-pays principles. This means that its taxable base is wide-ranging in scope, thus also applying to those with lower contributive capacity. Taxpayers with lower capacity will indeed find it more difficult to convert and implement cleaner technologies, considering that such conversion entails a certain amount of investment. For this reason, the environmental taxation reform has been said to have regressive effects, even if it globally proves to be neutral (i.e., even if the total taxation revenue of the country is maintained, distribution among social groups may be regressive)*".

Apart from the above, it is also important to discuss, in a more theoretical context, whether the Green Taxation Reform should serve to alleviate other taxes or to increase the overall level of tax revenue.

The decision taken by the Government seems to have been to consider that the Green Taxation should serve to alleviate other taxes. In line with this option, the Government decided to allocate the revenue generated by the Green Taxation Reform (estimated at € 165 million) to (i) Personal Income Tax relief under the family quotient (around € 148 million, 89.4% of revenues) and (ii) benefits and incentives for sustainable mobility, forest management and the conservation of nature (approximately € 17.5 million, 10.6% of revenues).

Despite agreeing that the Green Taxation Reform should, in theory, be used to alleviate other taxes, we believe that the option taken by the Government was not the best one.

In our opinion, the revenue generated should have been allocated to the promotion and support of environmentally responsible behaviours such as the conversion of companies that, for economic reasons, cannot incorporate "cleaner" technologies in their production process or the funding of research and development of new technologies (among other measures).

We agree with the position taken, among others, by **CMS Rui Pena & Arnaut** when it states that "(...) *we cannot omit the fact that relevant issues, lacking the means to be implemented, such as the aforementioned promotion of efficient use of our resources or conversion of businesses, making them more open to innovation, more up-to-date and competitive, or research and development of new environmentally-friendly technologies in our competence centers, not to mention land reorganisation and the rehabilitation of cities, which could obtain the necessary financing through correct redistribution of revenue from this reform, were forgotten or, once again, postponed.*" Along the same line, we also agree with the opinion of **Uria Menendez - Proença de Carvalho** which states that "(...) *In this sense, it would probably be sensible that the reform's proceeds could be reinvested with a view to such sustainability. It would have been best to see the tax neutrality achieved via the allocation of tax revenues to the renewal of Portugal's industry, either by means of State owned investment vehicles or an overarching tax benefits scheme, the encouragement of less polluting new technologies, in alternative energy sources or cogeneration*".

Had the Government followed this line and we could argue that there was a real “compensation” mechanism in place, where the least responsible behaviour would contribute, financially, to the promotion of more “environmentally friendly” behaviours (objective which, in our opinion, should have guided the elaboration of this reform).

Finally, it should also be noted, although recognizing that the rationale behind the work of the Green Tax Reform Commission seems to have been the total reallocation of revenues, it seems, at least at first, that the Green Taxation Reform had an unwritten goal (perhaps due to the country's economic situation) of immediately increasing the overall level of tax revenue. An example of this “unwritten goal” was, as noted by **Cuatrecasas, Gonçalves Pereira**, *“(…) the case of the tax that was levied on plastic bags: there was nearly no opposition to the measure, because the environmental justification was easily understood and accepted. And there was in fact a change in consumer behaviour, favouring reusable bags. However, there was also a thinly-disguised unhappiness that the tax did not produce the revenue that was expected”*.

Given the above, we believe the Green Taxation Reform, not doubting the goodness and the merits of some of its measures, does not fully comply with its plan to be an engine of “green growth.” It seems the Government ended up falling short of its objectives by not allocating the revenue generated to environmental promotion measures. In this sense, we fully agree with **Vieira de Almeida** when it states that:

“(…) green tax should be seen by society as just one of several tools available to commit to green growth, nothing more; otherwise, we could be considering, to the detriment of others, an instrument which increases, or at the very least does not decrease, the tax burden – with all the negative repercussions this may have on the country's economic growth”



5. How do the Portuguese rules on carbon taxation compare with the goals set by the European Union and with the legal framework of the other Member States?

Abreu Advogados

Some of the measures and amendments are innovative regarding our tax system but have been already put in practice in other countries, in particular, in the European-Nordic countries.

The Reform Commission showed special attention to the taxation of CO₂ emissions, most likely driven by the need to comply with EU recommendations.

According to the draft of the reform, the commission established measures in order to achieve 5 or 6 of the goals approved by the European commission.

In fact, the Portuguese tax system is now endowed with a set of rules to tackle the use of vehicles with high levels of CO₂ emissions. But, more than increasing the taxation on the most pollutant vehicles, the green reform implemented rules to promote the usage of electric and hybrids vehicles.

For example, VAT deductions on the purchase, manufacture or import, lease, use, processing and repairing of electric or hybrid plug-in vehicles for touristic purposes were introduced, as well as, the tax exemptions extension on Vehicle Tax and Single Tax on Vehicle Use, established exclusively for electric, hybrid, LPG and CNG vehicles.

Cuatrecasas e Gonçalves Pereira

An environmental protection tax in Portugal is in line with constitutional provisions. Fiscal instruments are regarded by doctrine and Portuguese legislation as the most effective means

to combat environmental damage, in particular, through punishing rates, which are also in accordance with the polluter-payer principle adopted by EU Directives.

Carbon dioxide taxes fall within the scope of EUROSTAT's definition of energy taxation.

Energy taxation, including taxation on carbon, is mainly regulated in the "Código dos Impostos Especiais sobre o Consumo" (CIEC), part II, chapter II, which in particular considers the Tax on Petroleum and Energy Products (ISP). This tax applies on products marketed as fuels, whether they are directed to final consumption or to resale. This way of taxing energy products is in perfect harmony with European law.

Tax rates are set annually by an order ("Portaria") issued by the Government responsible for the areas of finance and economy annually. ISP unit rates (including those applying on electricity), are contained in paragraph 1 of art. 92 of the CIEC.

The 2014 budget law, in turn, set out an extraordinary contribution on the energy sector, the purpose of which is to finance mechanisms that promote the systemic sustainability of the energy sector. This sustainability is ensured through the creation of an investment fund that will finance the execution of environmental and social policies of the energy system as well as the reduction of the tariff deficit.

Alongside this scheme there is a system of exemptions and reduced rates, which aims at aligning tax practices with the protection of relevant non-fiscal public interests. This system favours the use of certain products in certain activities regarded as less damaging for the environment, such as biofuels or the coloured diesel used for heating and lighting.

The European Union has, since the signing of the Kyoto Protocol, sought to create mechanisms that would promote environmental harmony among Member States, such as the burden-sharing agreement, which led to the internal redistribution of the overall goal (8%) of the European Climate Change Programme, and the creation, through the European Emission Allowances Trading System (EU ETS), of the world's largest carbon emissions market (the so-called "carbon market"). This "market", however, only covers 40% of greenhouse gases, with the remainder being subject to the legal systems of the Member States. There is, however, a uniform carbon tax in the European Union.

In the mid-90's, Portugal led the environmental taxes in Europe. However, such leading position was lost in recent years.

The carbon tax is the most relevant energy tax in Portugal, particularly in the area of road transport. However, the level of tax on road vehicles remained at half the European average in 2011.

Finally, Portugal, when compared to the remaining European countries, offers a comparative disadvantage in terms of energy taxes due to its large external dependency of imported primary energy. Imports reflect a negative cost on the efficient use of energy. Another distinction between Portugal and other European countries (such as Finland or Denmark) is the lack of differentiation between the industrial and domestic sectors, and the lack of development of incentives to production.

In terms of environmental efficiency, it may be concluded that Portugal is well placed between the European countries, having achieved the Kyoto Protocol objectives between 2008 and 2012, having produced 362 million tons, below the 382 million tons of carbon dioxide (CO₂) limit for industries, automobiles, landfills, agricultural fields and other activities in the country.

Garrigues

The current goals of reducing CO₂ emissions for Portugal and for Europe are particularly ambitious. Taking the global lead in this path of reducing CO₂ emissions into the atmosphere, the European Union has adopted the goal of achieving a reduction in their domestic emissions to a range of 80-95% by 2050 compared to 1990 levels.

Clearly, these commitments require a set of policies and concrete measures with EU coordination, where carbon taxation is one of the several instruments available.

Autonomous carbon taxation is felt today not only in the recent carbon tax on fuels, but also in vehicle taxes (Portuguese ISV), being those taxes increased on petrol and diesel vehicles on the basis of carbon dioxide emissions.

Indeed, the carbon taxation in the sectors not covered by the European Trade Emissions (ETS) by applying a rate indexed to the carbon price in the sectors covered by the ETS and the worsening of ISV rates depending on emissions, pursues an effective behavioral change.

In terms of efficiency, we cannot of course expect the carbon autonomous taxation to have the same results as the limitation of emissions and its trade allowances. It is natural that the latter measures have more instant results and are easier to measure which of course is not the case with carbon taxation. It is important not to forget that taxation, *per se*, does not limit emissions.

Thus, so that it is possible to achieve the desired results and the effective reduction of carbon dioxide emissions, it is essential to establish additional recycling mechanisms and to encourage less polluting behaviors and equipment, that economic and tax system should reward.

Indeed, it seems to us that the impact of the carbon tax to reduce CO₂ emissions has little expression, being required to additionally potentiate recycling and clean technology investments, namely through tax credits to companies for investments in energy efficiency.

On the other hand, carbon taxation due to its impact on prices of goods and exports necessarily has to be understood and scaled in an international context.

There are ongoing studies and negotiations for the possible creation of a common European carbon tax, possibly in place of other taxes. We will see how Europe behaves in this area, being particularly difficult in a topic with this relevance for the European economies and in the current context to achieve broad consensus.

Miranda & Associados

Carbon taxation revolves around three distinctive mechanisms: (i) the European Emissions Trading Scheme (*Comércio Europeu de Licenças de Emissão* - "CELE"); (ii) the consideration of carbon emissions in automobile taxation and (iii) the consideration of carbon emissions in the taxation of energy products.

The first item consists of a common market, the rules of which are defined at EU level. Therefore, Member States share a common legal framework.

The second group does not benefit from EU-level harmonization, though the matter has been under discussion for years. In 2005, the European Commission submitted a draft Directive (COM (2005) 261 final 5 July 2005), in which it suggested that vehicle taxation be restructured, so as to progressively take the environmental factor into account.

This new vehicle taxation configuration was implemented in Portugal with the sector's tax reform of 2007. At the same time, it was also adopted by a significant number of member States.

In relative terms, we are unaware of any recent data relating to the tax burden (in percentage terms) applying to automobiles in the various member States. However, it is possible to confirm that most of them continue to tax automobiles at two different moments in time: upon registration (such as ISV) and for ownership (such as IUC).

It should also be noted that the Environmental Taxation Reform introduced an increase in automobile tax totaling around 3%. This increase was justified by a drop in revenues, and not by environmental reasons. As a matter of fact, legal restrictions imposed on the automobile sector as regards carbon emissions, as well as the new taxation framework, entailed the technological improvement of engines, and consequent reductions in average CO₂ emissions, both in the context of fuel and diesel vehicles. This increase in environmental efficiency led to an erosion of the taxable basis which is now compensated with a tax increase.

On a final note, energy products taxation is currently governed by Directive 2008/118/CE (as amended) which sets forth the general arrangements for excise duty. This latter regime imposes the taxation of mineral oils, the application of taxes on coal, natural gas and electric power. However, since it is not yet possible to harmonize taxation, only minimum rates are established in EU legislation.

The Environmental taxation reform introduced an amendment to ISP based on CO₂ emissions, which applies to activity sectors excluded from the CELE. It is computed with reference to the average amount of CO₂ per ton, traded in the context of CELE.

In comparative terms, Portugal's taxation of energy products is above EU average. In general, it is vastly higher than taxes applied in neighboring Spain.

Morais Leitão, Galvão Teles, Soares da Silva & Associados

According to the most recent statistic data, collected in 2012, it is possible to verify that carbon emissions targets were, at until that date and according to the estimations, being complied with in Portugal.

Notwithstanding, the mandatory reduction on carbon emissions until 2030 and 2050 (obliging to a decrease up to 80% in comparison to 1990 data) demanded further attention.

Considering the enacted legislation prior to the Green Tax Reform, carbon emissions were relevant mainly for Single Road Tax and Motor Vehicle Tax.

However, since the enactment of the Green Tax Reform, a new surtax on carbon was indexed to the Oil Products Tax. With the new model of carbon taxation, Portugal has accompanied the tendency of some EU Member States, adding the carbon component of energetic products to its tax base.

PLMJ Sociedade de Advogados

The European Commission has had a determining and decisive role in implementing environmental measures in the various Member States. These include measures related to greenhouse gas emissions, particularly, carbon.

Therefore, to regulate carbon emission levels, targets were set for the taxation of energy, carbon and products that cause carbon emissions. These targets are set out in Directive 2003/96/EEC of 27 October, which was subsequently amended by Directives 2004/74/EEC and 2004/75/EEC, both of 29 April.

According to OECD data, with €93.60/tonne CO₂, Luxembourg is the European country with the highest tax on CO₂ emissions, closely followed by the Netherlands and Denmark. On average, Portugal taxes €47.80, the same as Spain. At €58.30, Germany is at a level close to France (€61.10) and both are exceeded by the United Kingdom with an average of €73.20. Poland, with €25.50 and Estonia with €25.70 are the EU countries with the lowest average carbon emissions taxation. However, in May 2014¹, only 12 of the 27 EU countries had express provisions for a rate of taxation of carbon and three member states, including Portugal, had been further identified as planning to include this taxation in their legal systems.

The EU created a multinational cap and trade scheme with a view to reducing and controlling greenhouse gas emissions (EU ETS), which is the pillar of EU climate policy and covers premises in the industrial and energy sectors. Therefore, the carbon taxation policies of the various countries already have exemptions and tax rebates for sectors already covered

¹ Institute for European Environmental Policy, *Environmental Tax Reform in Europe: Opportunities for the Future*, available at: http://www.ieep.eu/assets/1397/ETR_in_Europe_-_Final_report_of_IEEP_study_-_30_May_2014.pdf

by the scheme. The taxation of carbon emissions in all countries that do not have specific provisions in this respect is done through energy taxation. This includes taxation of fuels for industrial or commercial use, as well as heating fuels and propellants. It is also done through taxation of the purchase and ownership of motor vehicles (which takes into account the CO₂ emissions of the engines). We find examples of this type of taxation in Ireland, the Netherlands, Spain and Portugal (through its vehicle purchase tax and its road tax).

Finally, in some countries (United Kingdom, Italy and Sweden), taxes are collected on traffic in the busiest cities which, as a consequence, have the highest levels of CO₂ emission pollution.

We can conclude that, when compared with the other countries of the EU, Portugal has an appropriate tax burden on CO₂ emissions (which ranges from the taxation of energy products to the rules on taxation of vehicles, and includes the recently created tax on carbon and the tax on plastic bags introduced by the green taxation reform).

CMS Rui Pena & Arnaut

Carbon taxation is included in the category of environmental taxes² whose reasonableness and justification arise from environmental damage caused by CO₂ emissions, which must have a price and cost, according to polluter/payer logic, contributing not only to behaviour adjustment, but also to the financing of ecosystem protection and conservation programmes.³ There is nothing wrong, in principle, with their existence and applicability in order to globally achieve a low-carbon economy, particularly on the eve of the Paris summit, so important to our planet. However, we must be alert to its effects on the competitiveness of Portuguese companies, which are the main contributors of the tax, not only globally but also, and especially, in European terms.

I must emphasise that Portugal is one of the EU countries with the lowest CO₂ emissions (that do not exceed, on a worldwide scale, 0.16 %), and that its per capita emissions are lower than the European average by 50 %. It is noteworthy that the Netherlands, the Czech Republic and Finland emit more than double; Belgium, double; Germany, 85 % more; the United Kingdom and Greece, 60 % more; and its neighbour Spain, 17 % more. In this respect, we are perceptibly at the same level as Luxembourg, Croatia and Switzerland.

Despite this minimalism, carbon taxation in Portugal - which was introduced in 2007, albeit indirectly, in the "vehicle tax" (ISV) and "single vehicle excise duty" (IUC),⁴ and is now expressly provided for in the Code of Special taxes on Consumption (CIEC), in the section on marketing of oil and energy products, including motor propellants and fuels - is virtually at the same level of the most polluting European countries with respect to their incidence and

² Environmental taxes are provided for in Article 66, 2(h) of the Constitution.

³ See Maria de Odete Batista de Oliveira, in "Os impostos ambientais - alguns aspetos da sua temática", in *Revista de Direito e Gestão Fiscal*, 2004, p. 96.

⁴ These two taxes vary depending on the engine capacity of vehicles and the respective fuel, penalising the most polluting vehicles, and have undergone successive increases.

the applicable rates. Law 82-D/2014 of 31 December, which implemented the "green tax", subjected oil and energy products, previously taxed under CIEC, to an "addition" resulting from the application of a new carbon rate. The value of the rate in force in each year is indexed to the price of carbon calculated in the European Emissions Trading System (ETS) auction for the previous year. To this end, Portugal followed the latest EU guidelines proposing energy taxation on two fronts: one based on carbon content and the other based on energy content.

Indeed, under the environmental protection requirements, some years ago, the European Council adopted Directive 2003/96/EC of 27 October, which defines minimum tax values for energy products and electricity, ensuring, nevertheless, significant freedom and flexibility to Member States regarding the level of reductions, exemptions and reservations on their application. It constitutes a general reference framework whether in respect of product coverage or diversification of rates, not only in line with the type of products, but also their use. The intention was good in so far as it sought to avoid distortions among the competition in the domestic market of this sector.

The truth, however, is that it does not take into account the huge differences between EU countries, not only in terms of emissions, energy resources and types of consumption, but also in terms of economic development. In the case of Portugal, the strong external dependency to which it is subject to and the high cost of technologies and infrastructures for use of endogenous resources, constitute, in themselves, difficult obstacles to get around in respect of our competitiveness against the most developed economies, by which any increase, however well intentioned, does not favour Portugal's business system.

In addition, I would point out that it features distortions in need of correction, particularly with regard to the separation of different types of consumption, mitigating its effect on industrial and commercial use of affected products, the need to make carbon adjustments at the border to ensure a level playing field between imports and production, and preventing polluted products at lower prices from being uncompetitive and considering, alongside CO₂ emissions, those of other pollutants such as the recent VW scandal has shown.

Portugal still has a long way to go in this sense, starting by taking a closer look at itself not blindly accepting that which the EU imposes thereupon.

Sérvulo & Associados

The European emissions trading scheme (or simply, «EU-ETS») is the cornerstone of the European Union's strategy on climate action. Having been launched in 2005, it is now in its third period of implementation.

Since this scheme only applies to certain economic activities, whereas all economic sectors should contribute to reducing gas emissions, Member-States have made the commitment to adopt other policies and measures aimed at reducing greenhouse gas emissions

produced by sources to which the EU-ETS does not apply. When such commitment was made, particular relevance was given to the creation of both new and strengthened energy efficiency measures, and to the increase of renewable energy production.

Perhaps because of the above-mentioned scenario, the Green Tax reform also introduced a carbon taxation scheme in sectors not covered by the EU-ETS. This taxation scheme increases the tax on oil and energy products by adding a CO₂ emissions-related sum, which is calculated through the application of a rate indexed to the EU-ETS carbon price, even though the tax legislator can also set a minimum CO₂ price (it is reasonable to suspect that the prevision of such minimum price hoped to ensure the efficiency of the tax scheme when confronted with the structural imbalance registered under the EU-ETS, which recently gave rise to certain revision proposals seeking to stabilize the emissions trading market).

Despite the effort made to connect both regimes, at first glance this domestic carbon taxation scheme appears to be less flexible than the EU-ETS (which attempts to establish a transitional system in which the allocation of allowances is free, and to compensate those sectors more likely to be subject to carbon leakage). At the same time, it does not appear to determine a minimum percentage of tax revenue to be allocated to the funding of measures specifically aimed at mitigating the negative impacts of such a carbon taxation scheme on matters such as equity and competitiveness (e.g. the funding of projects aimed at reducing emissions, adapting to the effects of climate change, improving energy efficiency or developing renewable energies, and of measures set to accommodate the impact of price increases on consumer goods for lower income families).

This does not mean that these tax proceeds - along with the remaining Green Tax reform proceeds - may not, or should not, be subject to such an allocation, in order to comply with the "context of tax neutrality and economic competitiveness", which was envisaged, and specifically endorsed, when this taxation scheme was established.

Uría Menéndez – Proença de Carvalho

Prior to the introduction of carbon taxation with the green tax reform, there was already particular taxation in place with a certain relevance in the Portuguese tax system which was indirectly linked to CO₂ emissions. This is the case of vehicles' tax and the automobile single tax, which respective taxes are linked to CO₂ emissions, as well as the Oil and Energy Products Tax that has now been reformed in the framework of the green taxation reform with the carbon taxation (at the value of 5€/tCO₂ for 2015).

Although the introduction of a direct taxation on carbon represents an appraisable effort with a view to reduce greenhouse gas emissions (or to the mere increase of tax revenues),

nevertheless this measure seems not to be sufficient to achieve the European goals on the reduction of emissions.

In fact, in light of the objectives defined by the “European Commission’s White Book on the Energy and Climate Package for 2030” and, notably, of the three mandatory objectives set out by the European Parliament in the European strategy for energy and climate for 2030 (40% reduction of greenhouse gas emissions, 30% of energy coming from renewable resources and 40% increase on energy efficiency), the forecast of the results from the application of the carbon taxation legal framework in Portugal, set at a price of 15€/tCO₂ in 2030, points to a reduction of 30% of emission in that horizon, i.e., a deviation of 10% from the European goal according to a study developed by the Commission on the Green Tax Reform.

At the same time, it also seems to be clear that an increase in the price of carbon over 15€/tCO₂ by 2030 would entail negative effects for the Portuguese economy, overburdening energy costs. And these effects could in fact be exponential considering that Portugal is, to date and paired with Germany, Denmark, Finland, France, Holland, Ireland, the UK and Sweden, one of the few countries with carbon taxation mechanisms, which anticipates an extraordinary penalization of Portugal when competing with its European partners.

Moreover, Portugal is nowadays one of the countries with an higher level of taxation in the environmental and energy sectors. It is worth mentioning the fact that in 2010 that net tax revenues from environmental taxation represented 8% of Portugal’s tax revenue, whilst comparing with the 6% European average (data from Instituto de Estudios Fiscales Espanol).

In short, in a voluntarist approach and apparently coined by the need of immediate additional tax revenues Portugal has put itself in the vanguard of Member-States taxing carbon. Whilst it is true that the results of this framework will have, if they are not having already, a positive impact at the level of environmental preservation, energy efficiency and inherent savings, it is no less true that this initiative will not be adding much to the objectives set forth by the European Union, which compliance seem to be of interest to few.

Vieira de Almeida

Portuguese rules on carbon tax generally align with the targets set by the European Union and the legal framework of more demanding member-States (notwithstanding the specificities of each country).

Carbon taxation is not an easy subject as demonstrated by the analysis of the green tax reform project of 15 September 2014. Actually, this issue necessarily entails (as pointedly highlighted by the question above) an analysis and comparison with other economies; otherwise the carbon taxation could have a very negative impact on national economy.

This work was undertaken by the commission responsible for the green tax reform project. In this context we cannot leave aside a parallel issue we think is very important - “(...)”re-

cycling "tax revenues from green tax reform, and carbon taxation in particular", in accordance with the chairman of the commission for the green tax reform. In this regard, the chairman of the commission declared that "the Commission had four teams of economists assessing the best strategies to allocate the additional tax revenue, which results were published, and the commission clearly indicated in the final report that "only a green tax reform which includes an adequate "recycling" strategy allows for the attainment of a triple benefit (also referred to in relevant literature as 'triple dividend'): improve environmental performance, contribute towards economic growth and improve public finance while promoting budgetary consolidation." Although the Commission's project clearly reflects both good and counterproductive strategies, Government and the parliamentary majority opted for one of the latter.⁵

Further to the aforesaid, only time will tell whether the green tax reform, which we deem as pioneering, also produced "pioneering" results.

EnerXXI – Think Tank de Energia

Carbon taxation has been regarded as one of the cornerstones of the "Green Taxation Reform", working as a measure designed to curb pollutant emissions through the imposition of the traditional special consumption taxes which levy an additional burden on specific energy sources which carry negative side effects to the society as a whole.

Despite the focus on carbon taxation it should be highlighted that there are other measures, within the scope of the Green Taxation Reform that also address the same concerns, but from the point of view of the promotion of clean energies, as mentioned by **Abreu Advogados**, such as "VAT deductions on the purchase, manufacture or import, lease, use, processing and repairing of electric or hybrid plug-in vehicles for touristic purposes were introduced, as well as, the tax exemptions extension on Vehicle Tax and Single Tax on Vehicle Use, established exclusively for electric, hybrid, LPG and CNG vehicles."

In taxing carbon emissions, which main goals are to achieve tax neutrality, as analysed under the previous question, and allow for the recycling of the revenues – use of the revenues coming from these taxes to fund the reduction of the tax burden imposed on companies and individuals – one should highlight the importance of the so-called "three dividends" – environmental, economic and budgetary benefits – even though some concerns may be raised as to the actual effects of the reform measures considering the differences between the initial Project submitted by the Green Taxation Reform Commission and the approved version. As noted by **Sérvulo & Associados** the Reform package "does not appear to determine a minimum percentage of tax revenue to be allocated to the funding of measures specifically aimed at mitigating the negative impacts of such a carbon taxation scheme on matters such as equity and competitiveness (e.g. the funding of projects aimed at reducing emissions, adapting to the effects of climate change, improving energy efficiency or developing renewable energies, and of measures set to accommodate the

⁵ Non-official translation of the quotations of the chairman of the commission for the green tax reform.

impact of price increases on consumer goods for lower income families).” So, as Vieira de Almeida underlines, “as we said before, only time will tell if the green taxation reform, which we consider a true pioneer, also brought ‘pioneer’ results”.

At any rate, analyzing the Portuguese regime in particular, it is important to highlight that the above mentioned goals are to be reached through a set of specific measures which include (i) the introduction of a tax on carbon emissions, both for fuels and for other energy products, which is indexed to the reference value of the European market and, as mentioned by **Garrigues**, (ii) the rise of vehicles taxation considering its CO₂ emissions.

Still looking at the national framework for this type of taxation, it is important to notice that it is also supported by constitutional law, namely the articles referring to the protection of the environment on a dual perspective of a fundamental obligation of the State (article 9/e)) as well as a fundamental right and duty of the people (articles 52.º, 59.º and 66.º). In fact, as duly mentioned by **Cuatrecasas Gonçalves Pereira**, the legislator has often chosen, as it does once again, to use tax measures “*as the most effective means to combat environmental damage, in particular, through punishing rates*”, even though there are increasing cases of tax incentives, be it exemptions or tax reductions, to promote environmental friendly behaviours.

As reckoned by **CMS Rui Pena & Arnaut**, it is a tax regime “*whose reasonableness and justification arise from environmental damage caused by CO₂ emissions, which must have a price and cost, according to polluter/payer logic.*”

On an European Union context, carbon taxation, and in general green taxation, bear special importance in current days considering the obligations steaming from the Kyoto Protocol and efforts assumed to reduce greenhouse gas effects, which require “*reduction in their domestic emissions to a range of 80-95% by 2050 compared to 1990 levels*”, as indicated by **Garrigues**. One should, however, as mentioned by **Morais Leitão, Galvão Teles, Soares da Silva & Associados**, not forget that these goals may be deemed too ambitious, namely considering the necessary changes in face of the current energy mix and demand.

However, considering the historical difficulties in approving harmonized tax legislation within the EU – in particular due to the voting rules established for these matters – environment taxation is still much more of an aggregated set of national rules than a true harmonized regime. In fact, as noted by **Miranda e Associados**, only the ETS can be seen as “*a common market, the rules of which are defined at EU level. Therefore, Member States share a common legal framework*”. Following the same line of reasoning, **Sérvulo & Associados**, argues that this regime is the “*cornerstone of the European Union's strategy on climate action.*”

Despite the obstacles, it is worth noting Council Directive 2003/96/EC of 27 October (amended by Council Directives 2004/74/EC and 2004/75/EC, both of 29 April), was enacted to “*regulate carbon emission levels, [and set] targets for the taxation of energy, carbon and products that cause carbon emissions*”, as mentioned by **PLMJ Sociedade de Advogados**, even though there is still “*significant freedom and flexibility to Member States regarding the level of reductions, exemptions and reservations on their application*”, as reckoned by **CMS Rui Pena & Arnaut**.

As a result, even with the existence of an interesting set of legislation and guidelines, be it at an internal level or at an EU level, truth is, as indicated by **Uria Menéndez - Proença de Carvalho**, that “[a]lthough the introduction of a direct taxation on carbon represents an appraisable effort with a view to reduce greenhouse gas emissions (or to the mere increase of tax revenues), nevertheless this measure seems not to be sufficient to achieve the European goals on the reduction of emissions.” In addition one may also argue that the ultimate goal of these measures is more revenue-related given the current budget constraints and the already excessive tax burden imposed on other areas of taxation.

Comparing Portugal's and the other Member States' position, it may be argued that Portugal seems to have taken the “*vanguard of Member-States taxing carbon*”, as noted by **Uria Menéndez - Proença de Carvalho**, thus being in line “*with the targets set by the European Union and the legal framework of more demanding member-States*” as indicated by **Vieira de Almeida**, which may carry unforeseen costs to Portugal considering the differences between the countries in accessing energy and Portugal's particular difficulties.

In conclusion, putting together the fact that Portugal is one of the least polluting countries in the EU with the fact that it has one of the heaviest tax burdens, it should be questioned whether the measures adopted are in line with the objectives of promoting clean energy sources and recycling of tax revenues, as well as adjusted to Portugal's particularities. If that is not the case, there is a real risk that these measures may represent an excessive burden on the national productive sectors, with a global impact on the Portuguese economy.

End Note

After a careful reading of the responses issued by the different law firms, it is interesting to see the variety of opinions concerning the same issue. Despite points of contact, the different law firms demonstrated how you can address the same topic from different points of view.

We hope this book will serve to further “deepen” a discussion that is increasingly important in the Portuguese legal landscape.

For this project, the initial idea was to analyse the “state of art” of the Portuguese Energy Law by gathering the views of the most relevant industry professionals. We considered that it would be important to collect their views in order to amplify their opinions on the topics listed above (all related to the Energy Law in Portugal).

With the participation of law firms

Abreu Advogados

Cuatrecasas, Gonçalves Pereira

Garrigues

Miranda & Associados

Morais Leitão, Galvão Teles, Soares da Silva
& Associados

PLMJ Sociedade de Advogados

CMS Rui Pena & Arnaut

Sérvulo & Associados

Uria Menéndez – Proença de Carvalho

Vieira de Almeida

and the group

EnerXXI – Think Tank de Energia